AUG. # COTTON 1940

SERVING THE

Textile Industries

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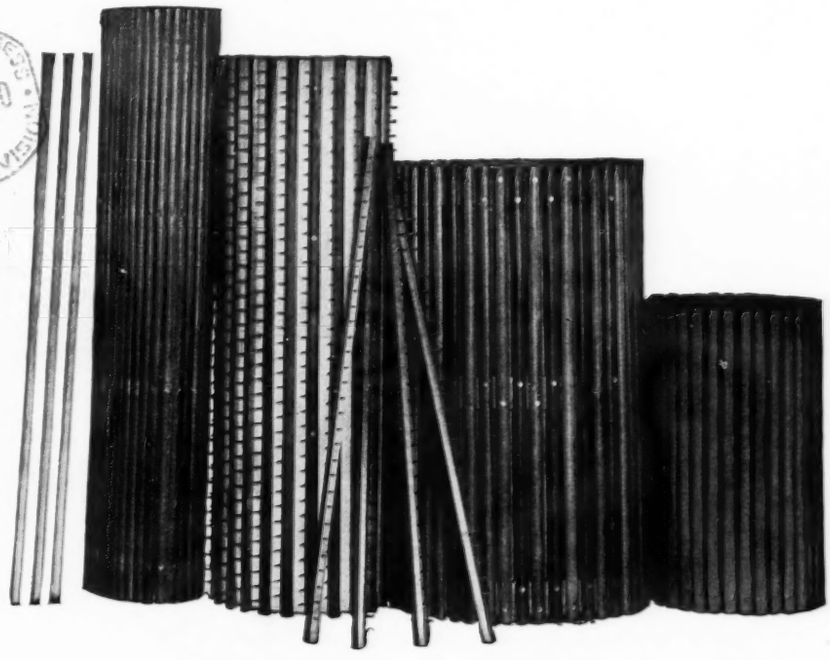
TEXTILE SERVICE



PICKER APRONS

Picker Aprons, as made by F. C. Todd, Inc., are of the finest materials, assembled by skilled workmen, assuring dependable day-in and day-out performance without expensive stops for adjustments and repairs.

These Aprons, because of their unequalled quality, are now standard equipment in textile mills throughout the country.

Available in both spiked and slat types for all makes of pickers, openers, breakers — waste machines and garnet machines.

Quality and Service Our Motto.

We Carry Parts for

PICKERS
CARDS
LAP MACHINES
COMBERS
DRAWING
SLUBBERS AND ROVING
SPINNING
TWISTING
WINDING
WARPING
SPOOLING
BOBBINS
SPOOLS
SKEWERS

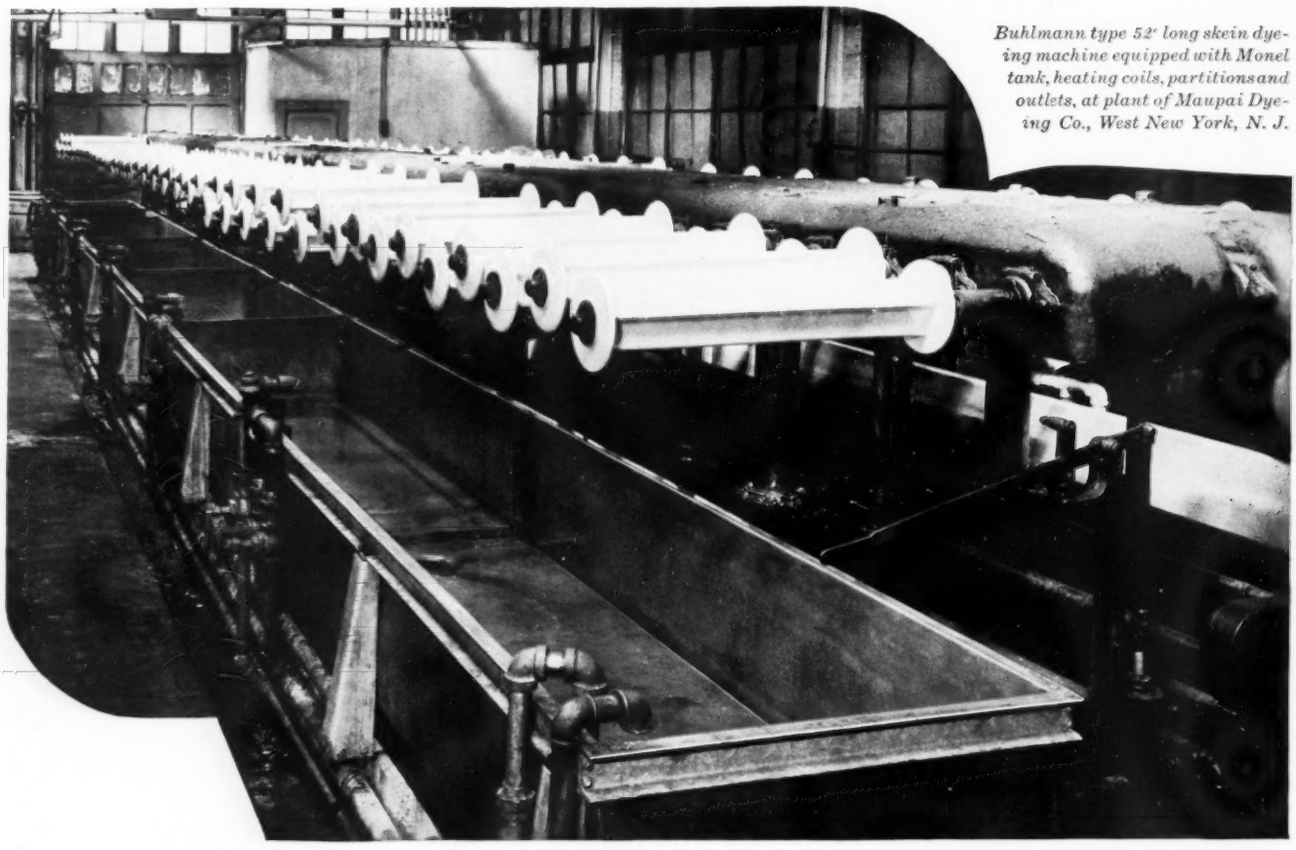
Liquidations F. C. TODD, Pres. & Treas. *Appraisals*

F. C. TODD INCORPORATED

TEXTILE MACHINERY AND SUPPLIES

GASTONIA, N. C.

8 Years' Daily Service . . .



Buhlmann type 52' long skein dyeing machine equipped with Monel tank, heating coils, partitions and outlets, at plant of Maupai Dyeing Co., West New York, N. J.

No Corrosion Pitting by SALT

52-foot Monel dye tank still in excellent condition

After 8 years' use handling corrosive dyes and chemicals, wouldn't you expect this tank to show signs of deterioration? Of course! And you'd be right . . . if it were made of ordinary metal. But see what happened:

Maupai Dyeing Company knows a thing or two about corrosives. About the destructive effect, for example, of *common salt.* So throughout this plant you find dye jigs, skein dyeing machines, peroxide bleaching kiers, extractor covers, and other equipment . . . all made of Monel.

Hence the use of Monel for the 52-foot dye tank illustrated. And hence the excellent record of *8 years' service without a sign of corrosion pitting.*

When ordering new equipment or replacing old, take a tip from Maupai: Specify Monel. Write for full information on the metal that stands off corrosion by *common salt.* Address:

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET **NEW YORK, N. Y.**

INCO MONEL

MONEL

"Monel" is a registered trade-mark of The International Nickel Company, Inc., which is applied to a nickel alloy containing approximately two-thirds nickel and one-third copper.

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
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Entered as second-class matter at the Postoffice, Dalton, Ga., under the Act of March 3, 1879.

Skilled and Experienced Workers Predominate in Draper Shops

Five Men Have Worked a Total of 298 Years

Seated—Left to right, Albert Boover, 63 years, polisher Temple Roll teeth; Pat Dillon, 62 years, screw inspector; Thomas Kelly, 59 years, loom erector. Standing—George Schultz, 58 years, foreman; Thomas Gaffney, 56 years, rigger in foundry.

Terms of Service of Draper Shop Workers

Over 60 Years	2
50 to 60 Years	10
40 " 50 "	65
30 " 40 "	145
25 " 30 "	127
20 " 25 "	251
15 " 20 "	296
10 " 15 "	276
	1172

The loyalty of its shop workers and the Corporation's appreciation of that loyalty are shown by the record of long-time service of Draper workers. More than 45% of the 2590 workers in the Hopedale shops have been continuously working for the company for more than 10 years. Our branches at Spartanburg and Beebe River have been established too short a time to be included in this tabulation, but the help there apparently are on the way to make a similar record. Taking all plants together, less than 1% per year leave us permanently.

The total of long-time employes would have been greater but for the large turn-over of the war years 20 years ago when our country drew upon us very heavily for soldiers and skilled mechanics in essential war industries. The number of men working from 20 to 30 years undoubtedly would have been larger but for this draft.

Skilled help as well as shop equipment make Draper products and Draper service what they are.

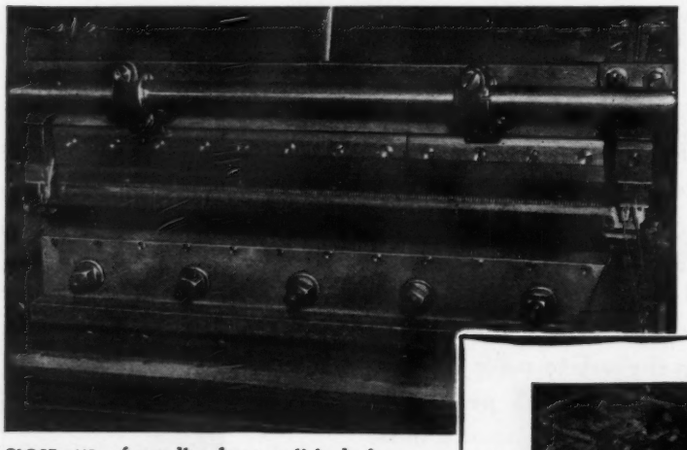
DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

11-YEAR FREEDOM

from RUST *and* SPOILAGE

WHERE ROSEDALE Full Fashioned Hosiery is made. Machines lubricated with *Texaco White Needle Oil B.* Gen. Mgr. Ray F. Borda says that for 11 years he has found Texaco Lubricants uniform and satisfactory in every respect.



CLOSE - UP of needles kept polished, free from rust and wear with Texaco, even in the highly humidified atmosphere of the Rosedale knitting rooms.

SINCE 1929 the Rosedale Knitting Co., Reading, Pa., has experienced less discoloration of grey goods in storage, less gumming of machines, less rusting. Needle life has been substantially lengthened. For 11 years, Rosedale Full Fashioned Hosiery has been knitted on machines lubricated with Texaco.

Texaco knitting mill lubricants are free from tar and gum forming substances. They resist oxidation and rancidity . . . resist rust formation, even in the highly humid atmospheres of the modern knitting room.

Trained engineers specializing in textile lubrication will gladly cooperate in making savings with Texaco textile lubricants in your mill. Phone the nearest of more than 2300 warehousing points in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

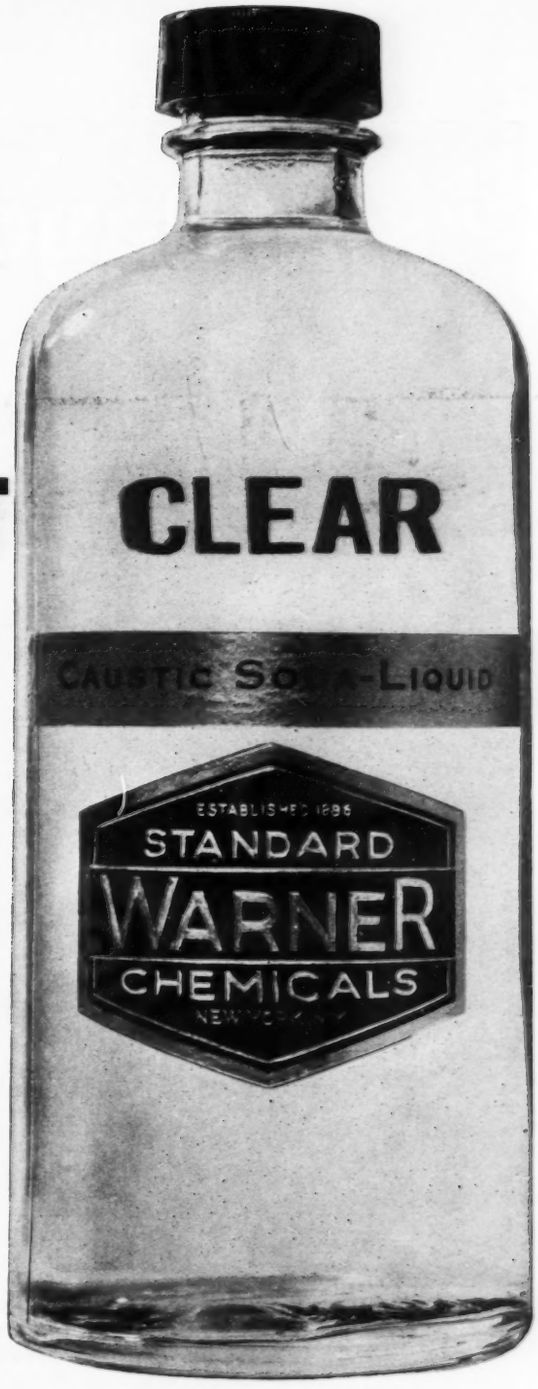
Texaco Dealers invite you to tune in The Texaco Star Theatre—starring Kenny Baker and Frances Langford—Every Wednesday Night—Columbia Network—9:00 E.D.T., 8:00 E.S.T., 8:00 C.D.T., 7:00 C.S.T., 6:00 M.S.T., 5:00 P.S.T.

AIRPLANE VIEW of the Rosedale Knitting Mills, Full Fashioned Hosiery manufacturers, Reading, Pa.

TEXACO REG. T. M.

TEXACO Textile Lubricants

WE MAKE IT CLEAR



Warner Textile Grade Caustic Soda has made it clear to many prominent mercerizers, bleachers, dyers and finishers that paying a price premium for caustic soda is an unnecessary production expense.

Warner Textile Grade Caustic Soda has no turbidity. Its salt content is reduced to a percentage that has no deleterious effect. It has an iron content as low, or lower, than any caustic soda made by any method.

Why not order a car of Warner Textile Grade Caustic Soda for prompt shipment from our conveniently nearby plant at South Charleston, West Virginia?

WARNER TEXTILE GRADE CAUSTIC SODA

OTHER WARNER CHEMICALS

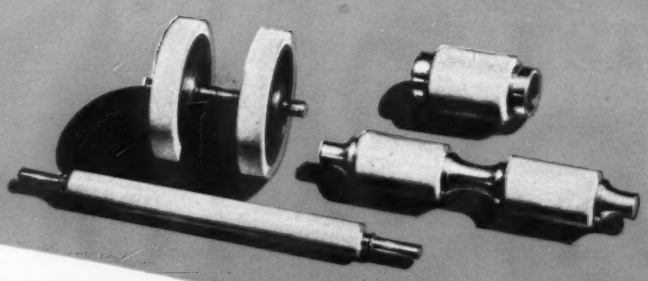
Tetra Sodium Pyrophosphate
Phosphoric Acid
Sodium Phosphates
Bromine
Liquid Caustic Potash
Carbon Tetrachloride
Chlorine, Liquid
Trichlorethylene
Perchlorethylene
Carbon Bisulfide
Sodium Sulfide
Epsom Salt
Hydrogen Peroxide

CHEMICAL WARNER COMPANY

DIVISION OF
WESTVACO CHLORINE PRODUCTS CORPORATION

CHRYSLER BUILDING, NEW YORK, N. Y.

ONLY Dayco TEMPERED ROLL COVERINGS GIVE YEAR ROUND EFFICIENCY



Summer, winter, spring, fall, week in and week out—regardless of temperature changes or extremes, Dayco Tempered Roll Coverings set an entirely new standard of efficiency. Only Dayco's unvarying properties assure you instantaneous start up and production after winter week-end shut-downs. No flattening, no distortion, and no grooving to give you ends down jitters and production loss. Daycos are the finest product of skilled labor, modern equipment and quality materials. And only Daycos have these overwhelming advantages which keep up your efficiency and lower your costs.

THE DAYTON RUBBER MFG. CO.
TEXTILE PRODUCTS DIVISION, Dayton, Ohio
The Originators and Pioneers of Dayco Tempered Roll Coverings

GREENVILLE SALES OFFICE
Woodside Building, Greenville, S. C.

ONLY DAYCOS HAVE THESE 11 OVERWHELMING ADVANTAGES

1. Improved drafting.
2. No grooving—less ends down.
3. Not affected by temperature changes.
4. Lower net roll costs.
5. Long service life.
6. Easy to apply.
7. Proper cushioning.
8. Unaffected by hard ends.
9. Static free.
10. Oil resisting.
11. One piece tubular construction.

Dayton
Thorobred TEXTILE PRODUCTS
Dayco TEMPERED ROLL COVERINGS–LOOM SUPPLIES
Made by the World's Largest Manufacturer of V-Belts

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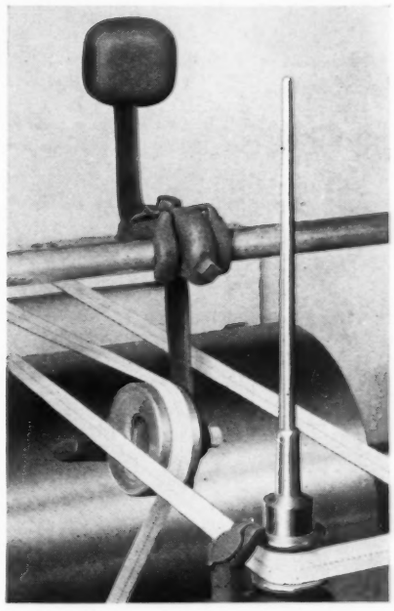
WHITIN BALL BEARING TAPE TENSION PULLEYS

FOR SPINNING FRAMES AND TWISTERS

- ▼ An anti-friction sheave pulley unit that is lint and dirt proof.
- ▼ It will run for very long periods without relubrication or other attention.
- ▼ Starts easily, runs freely, and takes very little power.
- ▼ Reduces tape slippage, stops falling tapes.
- ▼ A new Whitin product, designed for Whitin machines.

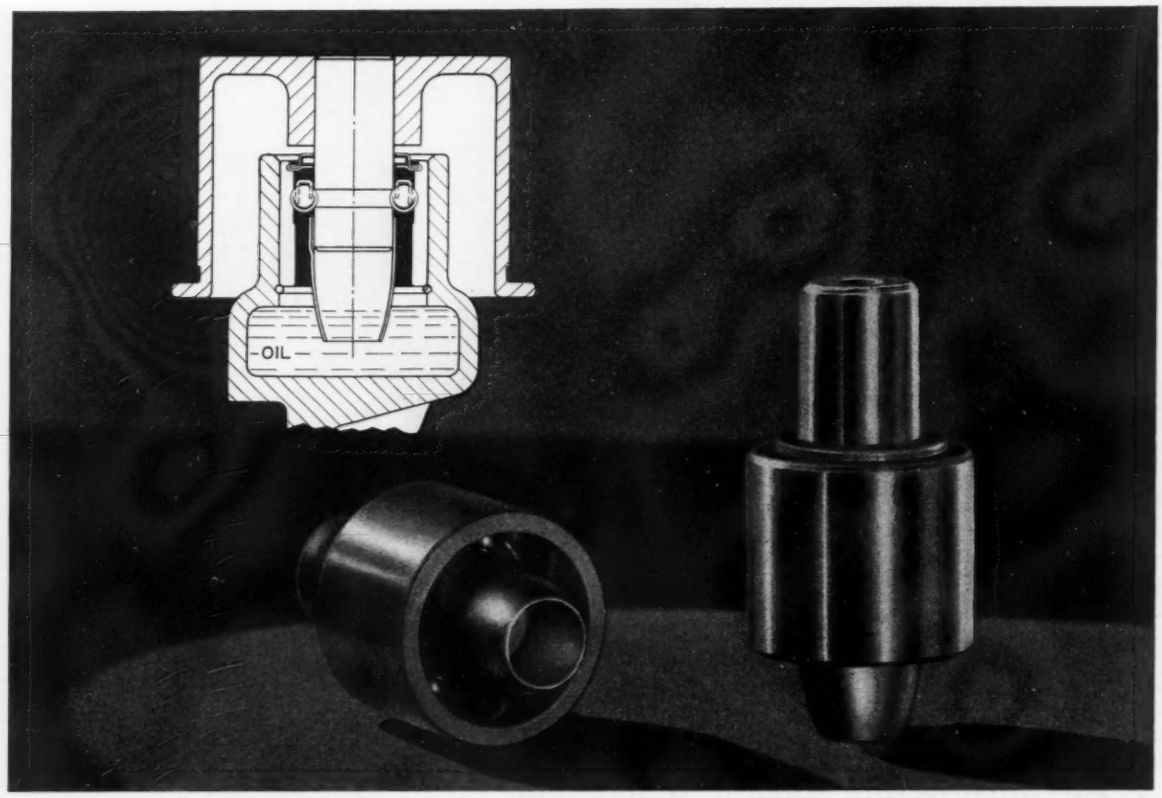


WHITIN MACHINE WORKS

WHITINSVILLE, MASSACHUSETTS, U. S. A.

CHARLOTTE, N. C. ATLANTA, GA.

The *Only Bearing* with In-built Centrifugal Pump



FOR VERTICAL TAPE TENSION PULLEYS

HERE is the pulley bearing that has *everything*—even its own oil-circulating system.

Top facts are these:

Designed for years of trouble-free service.

Completely enclosed when mounted, thus fully protected from dirt or lint.

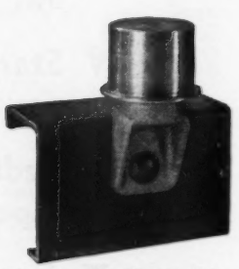
Extremely light running, has friction-free metallic seal.

Relubrication needed only at one to two year intervals.

Pulley and bearing instantly removable without tools.

Easy to mount, with no locknuts, springs, screws or other gadgets required.

And—back of these is New Departure's knowledge and experience—more than fifty years of precision manufacturing. Ask for Bulletin A-287. New Departure, Division of General Motors, Bristol, Conn.



The Tension Pulley bearing as used in the new and highly efficient Atwood 5 B machine for doubling and twisting silk and rayon yarns.

NEW DEPARTURE

ORIGINATOR OF THE SELF-SEALED BALL BEARING

2912

Twin Values FOR YOUR PACKAGING DOLLARS

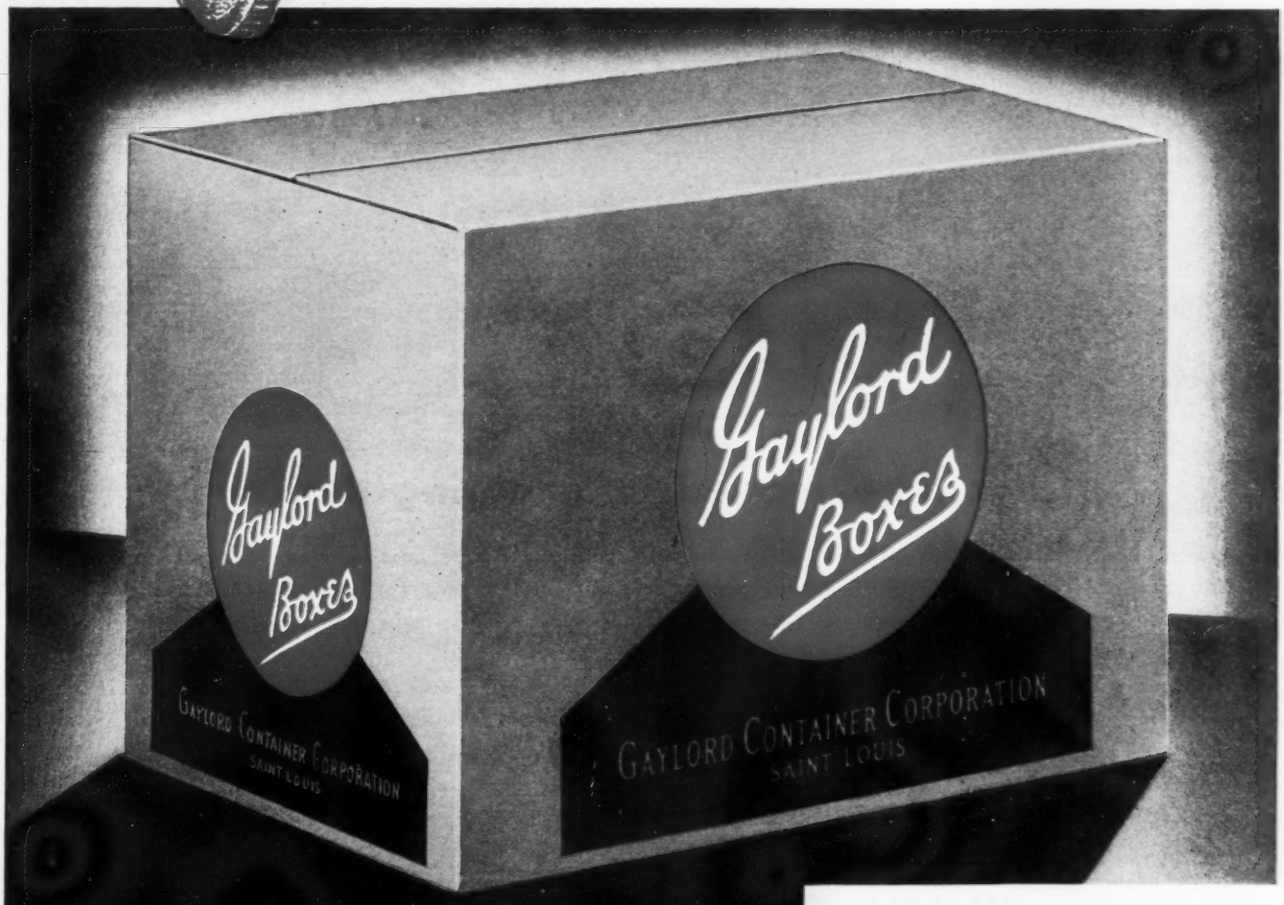
... when you give your product the sales and safety assurance of Gaylord Boxes

Your packaging dollars do double duty when invested in Gaylord Boxes... ask any executive who has these customer-winning containers working for his product.

The famous Gaylord built-in "Extra-Margin of Safety" protects your product *all the way*... against unlooked-for shipping hazards... assures safe arrival and your customer's complete satisfaction.

Gaylord Boxes do more than transport your product with minimum shipping cost and damage claims. Better appearance, streamlined design, clear-cut lettering make these sturdy carriers an important factor in increasing sales.

Gaylord master craftsmen are ready to work with you in reducing damage claims, developing goodwill, sales and profits. Mail the coupon below and receive this valuable consultation service on your packaging and shipping problems. No obligation.



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Also Gaylord Folding Cartons... Grocery Bags and Sacks... Kraft and Specialties

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GAYLORD CONTAINER CORPORATION
2820 South Eleventh Street, St. Louis, Mo.

Gentlemen: We would like to discuss the possibilities of increasing sales through our shipping containers. Get in touch with us for interview.

*Firm*_____

*Address*_____

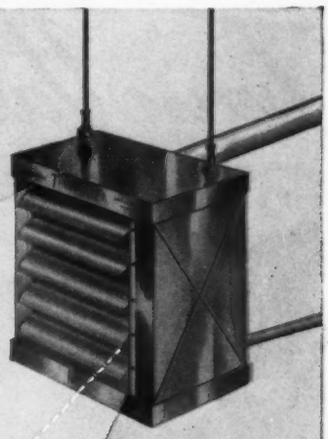
*City*_____ *State*_____

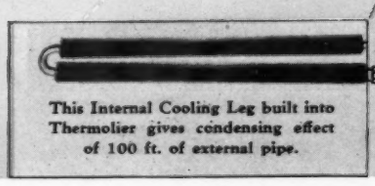
*By*_____

Only

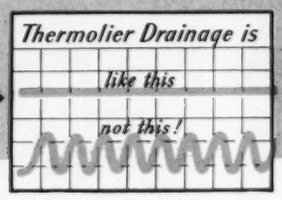
THERMOLIER

PROVIDES "FULL HEAT" HERE!





This Internal Cooling Leg built into Thermolier gives condensing effect of 100 ft. of external pipe.



plus time-proved engineering design

Unit heater ratings are made on the assumption that their drainage will be always perfect. In actual practice, many heaters operate with as much as the lower one-third of their pipes intermittently filled with condensate, instead of live steam!

Only Thermolier has the exclusive Grinnell Internal Cooling Leg that insures *continuous* drainage . . . provides *full heat* all the time from lower as well as upper radiating surfaces! No other heater escapes the added wear caused by intermittent operation!

Other original features include Grinnell self-draining U-tube heating elements that automatically compensate for expansion; and the same leak-proof tube-to-header construction used in big condensers.

Before you select unit heaters, investigate Thermolier . . . the heater that has required no basic changes since its development because its original design provided top operating efficiency! Available in 37 types and sizes. Write for complete Thermolier Data Book . . . compare Thermolier's 14-point superiority! Grinnell Co., Inc., Executive Offices, Providence, Rhode Island. Branch offices in principal cities of the United States and Canada.

GRINNELL THERMOLIER

THE UNIT HEATER WITH 14 POINTS OF SUPERIORITY

*M-DAY will be too late!

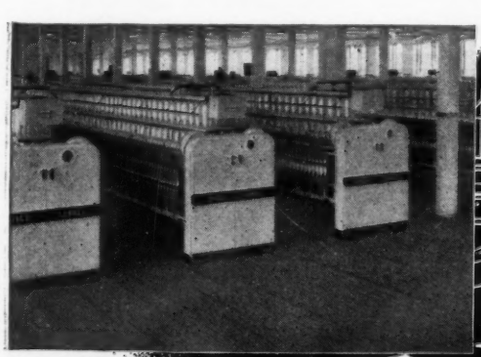
. . . strengthen your production line now . . . before defense requirements find you unprepared.

Our program of national defense — now well under way—will unquestionably create a heavy load on the textile industry. Fabrics of quality and durability manufactured to exacting army and navy specifications must be made in large quantities . . . . . on time . . . and at a reasonable cost.

Mills equipped with Saco-Lowell controlled draft units in Drawing, Roving, and Spinning will be in "fighting trim" to meet the demands of the Services.

Take a lesson from the past. Prepare your mill NOW. ***M-Day will be too late!**

*Mobilization Day

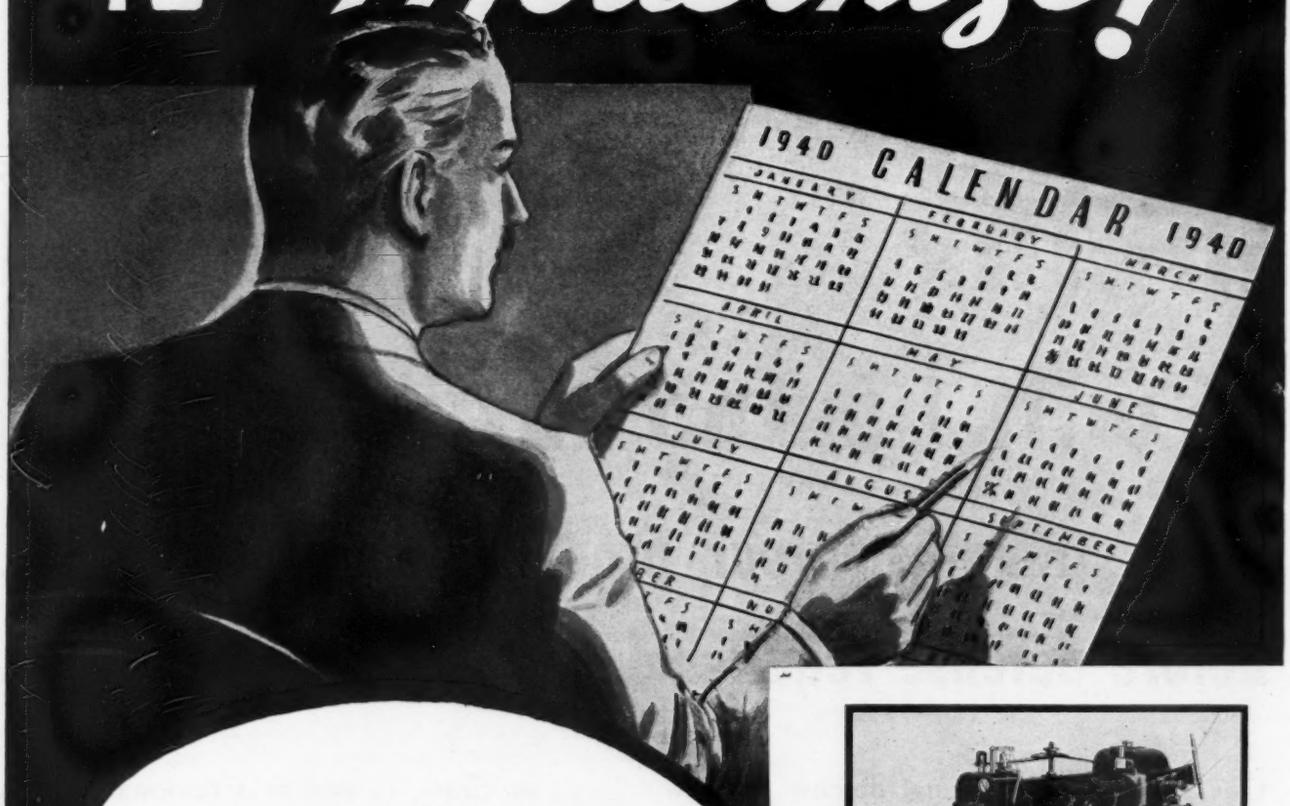


SACO-LOWELL SHOPS

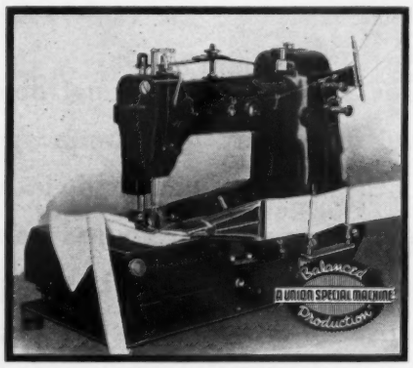
60 BATTERYMARCH ST. · BOSTON, MASS.

Charlotte, N. C. Greenville, S. C. Atlanta, Ga.

"WHEN IS THE BEST TIME TO *Modernize?*"



• Every minute that you run a slow, obsolete machine, you throw real money out the window—money spent for the extra, unnecessary time that your help requires to finish a job! This same money could be paying for new, modern, high-speed Union Specials. In other words, if you are operating obsolete equipment, you are paying for Modernization right now, without getting it! Don't wait any longer. NOW is the time to Modernize! You'll never believe how much smoother, easier and faster your work can be handled until you see the latest Union Special machines in action. Call up your Union Special representative for a demonstration NOW! UNION SPECIAL MACHINE COMPANY, 438 N. Franklin Street, Chicago, Illinois.



NEW TOP-ROLLER FEED MACHINE

STYLE 51200 JZ—Here is a new machine for shirt manufacturers and producers of knit underwear.

It is fitted with a top roller feed, and for the shirt manufacturer enables him to attach sleeve plackets and button stays absolutely straight so that figures and stripes can be perfectly matched.

For knit underwear, the machines are designed for attaching woven button stays. Here, in addition to the top roller feed, the machine is equipped with an under-differential feed, that entirely eliminates any tendency for the button stay to curl, and instead lays it out smooth and flat.

UNION SPECIAL

THIS IS NO. 22 OF A SERIES ON

GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

LUBRICATION OF NO. 50 WINDER

In the standard No. 50 head, the spindle bearings at A and the front Cam Shaft Bearing at B are now equipped with Oilite Bushings. These are porous bronze bushings impregnated with a year's supply of lubrication which is fed to the bearing surfaces through the pores. The bushing will last indefinitely if kept permanently saturated with oil.

As added protection for the spindle bearings, an oil reservoir is provided in the top of the frame, carrying a 6-months' supply which should be checked once a month. Oil reaches each bushing by means of a felt wicking, one end passed over the bearing, the other end resting on the bottom of the oil reservoir. The oil is drawn up, by capillary action, through the wicking, and penetrates the porous Oilite Bushing. Only enough oil is required in the reservoir to keep the wick saturated.

The oil level in the reservoir must be kept below the spindle bearing, so an overflow hole is provided in the reservoir. This hole is for overflow *only;* it is not intended to provide lubrication to the Cam and other parts below.

A high grade, light bodied oil having a Saybolt viscosity of 120 to 150 seconds at 100° F is recommended for the oil reservoirs. Socony-Vacuum *Velocite C*, Esso *Teresso 43*, Texas *Regal A*, Gulf *Harmony A* or equivalent are satisfactory oils.

Gear Gain

Mills have a tendency to keep the level of oil in the Gainer Case altogether too high. To prevent oil leaks, the level should be just high enough to cover the teeth and lower rim of the Cam Shaft Gear. This gear will carry the oil up to the groove (C) in the top of the Gainer Case Bushing. This oil lubricates the Cam Shaft and passes along the Shaft to the Cam and front Oilite Bushing (B). Through the centrifugal action of the Cam, the oil is also carried to the Cam Roll, Traverse Bar and Slide.

The supply of lubrication in the Gainer Case should be checked once a week but will last for a long period of time. When starting new cams, a little vaseline or very light grease can be spread on the cam groove.

Belt Gain

Oil is introduced into this Gainer Case through the oil hole at (D), which has a screw cap and leather washer. With the Gainer Belt removed, the case is tipped to the right until the oil hole reaches the "three o'clock position." Filling to this level will bring the oil up to the bottom of the Cam Shaft. This is enough for a long period, but should be checked twice a month.

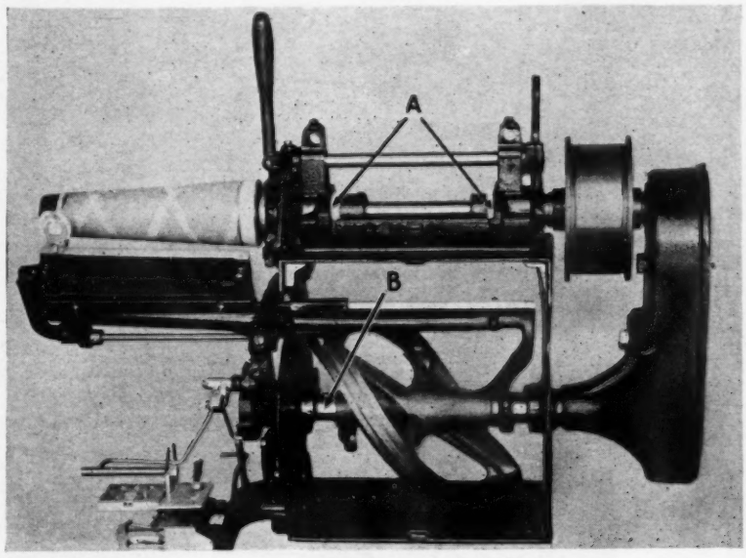
Idler Pulleys

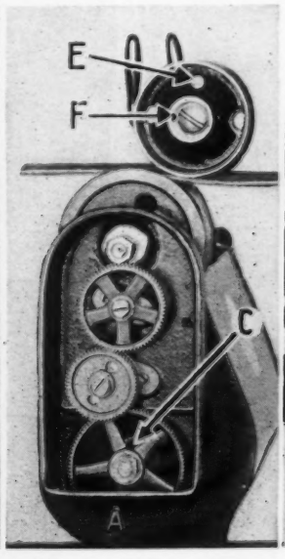
Spindle Idler Pulleys are also equipped with Oilite Bushings. As an added protection, a grease chamber with Alemite Fitting (E) provides the pulley with a reserve supply of lubrication. A charge of light grease is sufficient for 6 months, but it is best to inspect the pulleys more frequently. On each side of the pulley there are two holes leading from the reservoir to the bearing; all except one contain a wick carrying lubrication to the bearing. The fourth hole (F) is open, providing an air vent to release air from the chamber as the grease is being introduced.

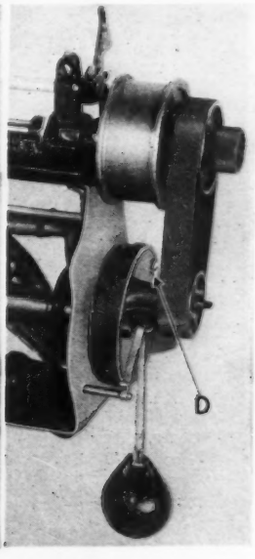
The following greases or their equivalent are satisfactory for Idler Pulleys: Keystone *No. 505*, Socony-Vacuum *MC Medium*, Esso *Castroleum 0½*.

The Idler Pulley Arm has an oil hole that should receive a drop of oil weekly.

On clutch-drive machines, the Idler Pulleys are chamber cored and have oil channels leading from the central oil chamber to the ends of the bearings. By removing the oil cap that holds the pulley in place, oil can be introduced with an oil gun up to the level of these channels. Due to the centrifugal force of the revolving pulley, a chain is required to bring oil to the bearing while the pulley is running. Idler Pulleys should be filled once a month to the bottom hole.







"THERE'S A UNIVERSAL WINDER FOR EVERY TEXTILE NEED"

UNIVERSAL WINDING COMPANY

PROVIDENCE BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

*Reg. U. S. Pat. Off.

"WE WILL PREPARE,"

"WE WILL HELP YOU

"SEE THAT CLOUD, SON? IT MIGHT GROW INTO A STORM THAT WOULD CRACKLE AROUND OUR HEADS. BUT WE'LL BE READY FOR IT—IF IT COMES. WE'LL HAVE TO WORK FAST. BUT TODAY INDUSTRY CAN DO IT."

says American Industry

PREPARE FASTER," *says Taylor*

Today's industry can do its bigger job of national preparedness faster than industry of a generation ago could hope to—with the aid of Taylor Instruments which today provide precision control that was not possible then

AMERICA'S Peace and Security Must Not Be Endangered! You, and you, and you—makers of machines, weavers of textiles, canners of food, providers of power—must be prepared. You are America's defense. You must be ready for faster, larger production. You must be ready for more efficient, economical operation of your plants and factories. Our national need is speed.

In a similar crisis, a generation ago, Industry carried out a great preparedness program successfully. But it was not easy. It took too long.

Today, Industry's shift into high gear should be far easier and faster than it was twenty-odd years ago. For instance, American Industry today has the help of many Taylor Instruments that were not available in those days.

For much has been happening at Taylor Instrument Companies in the years since that last time Industry was called upon to "Be Prepared!" Taylor research engineers have been busy. With the experience of almost ninety years of instrument-making to guide them, they have perfected instruments before thought impossible.

So, here in this 1940 time of need, American Industry *can* confidently promise to produce faster because Taylor Instruments can help to control vital processes in production, and automatically guard essential operations. American Industry *can* give assurance that it will step up textile production, power production, petroleum production, food processing —with the knowledge that Taylor Instruments in plants and factories are a vital help in guaranteeing safety, no matter how frantic the speed required.

Take the amazing new Taylor Fulscope Controller as only one outstanding proof. It's a completely new instrument for *all* industry. It helps to make the operations in *your* plant—whatever you manufacture or process—as exact, as foolproof as scientifically possible. The Fulscope Controller stands constant guard—controlling, recording, preventing slips or sloppiness. Its unique range makes it actually *five controllers in one*—a multi-use efficiency expert without human failings.

And the Taylor Fulscope Controller is only one name on the Taylor roll-call of instruments to help Industry. No need to list all the others here. Some of the most useful have been specifically created for the particular requirements of particular industries. Your own industry, perhaps. All of them have been designed with a single purpose: better, faster, industrial production at lower costs.

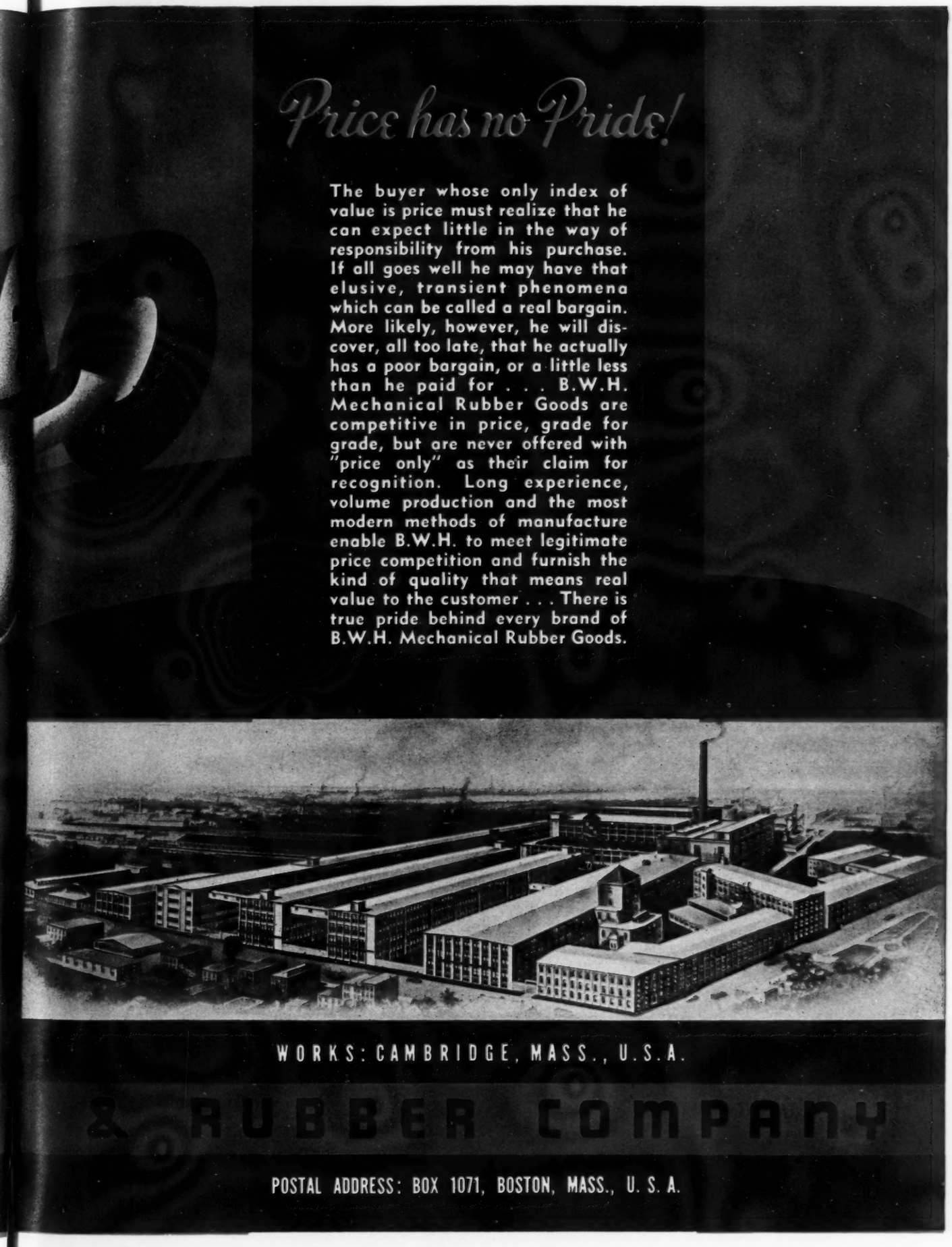
Preparedness can't wait. This country can't afford industrial logjams. There's a huge job to do, and it must be done *now*. Taylor Instruments will help to see that it *is* done . . . Taylor Instrument Companies, Rochester, N. Y., Toronto, Canada, and London, England.

Taylor

Indicating Recording · Controlling

TEMPERATURE, PRESSURE, FLOW *and* LEVEL INSTRUMENTS

COMPETITION
BOSTON WOVEN HOSE



Price has no Pride!

The buyer whose only index of value is price must realize that he can expect little in the way of responsibility from his purchase. If all goes well he may have that elusive, transient phenomena which can be called a real bargain. More likely, however, he will discover, all too late, that he actually has a poor bargain, or a little less than he paid for . . . B.W.H. Mechanical Rubber Goods are competitive in price, grade for grade, but are never offered with "price only" as their claim for recognition. Long experience, volume production and the most modern methods of manufacture enable B.W.H. to meet legitimate price competition and furnish the kind of quality that means real value to the customer . . . There is true pride behind every brand of B.W.H. Mechanical Rubber Goods.

WORKS: CAMBRIDGE, MASS., U.S.A.

RUBBER COMPANY

POSTAL ADDRESS: BOX 1071, BOSTON, MASS., U. S. A.

NO. 5 OF A SERIES

With a Range of Pressures to Fit the Job, Plus a Choice of Seats and Discs to Suit the Service•••

LUNKENHEIMER

"FERRENEWO" and "RENEWO" (REGULAR AND PLUG TYPE) VALVES

ARE "CORRECTLY ENGINEERED" FOR MAXIMUM ECONOMY ON THE JOB!

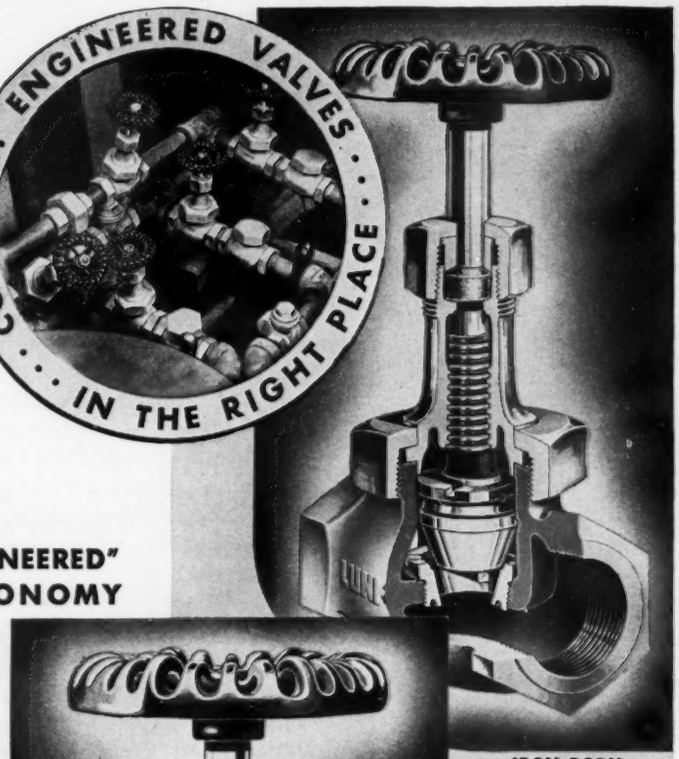
The premium in price which a buyer is willing to pay for the added convenience of an "all purpose" type of product is not always justified. In the case of valves, there is no need to sacrifice strict economy for the sake of convenience . . . nor is it necessary to jeopardize ultimate serviceability where a so-called "all-purpose" valve isn't actually "up" to the requirements of certain installations.

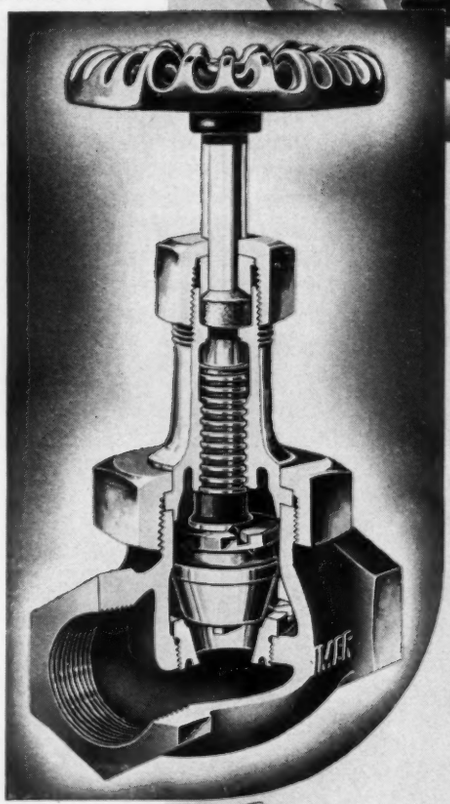
Lunkenheimer, in its line of "Ferrenewo" and "Renewo" valves, first of all offers the buyer a range of pressures to provide the most *efficient* valve for every job. In addition, you have the choice of either regular or plug type seats and discs, depending upon the particular service condition . . . a feature that literally *doubles* the breadth of this line and further assures an absolutely rock-bottom cost for every application.

But this wider choice of patterns by no means complicates the use of Lunkenheimer "Ferrenewo" and "Renewo" valves. The fact that parts other than seats and discs are *also* interchangeable means that fewer parts need to be kept on hand, repairs are facilitated, and ordering and handling are simplified. Here, indeed, is an example of engineered superiority worthy of your immediate investigation.

SEEING IS BELIEVING!

One of the best ways to convince yourself that "Ferrenewo" and "Renewo" valves offer you a decided advantage, both in cost and long term satisfaction, is to ask our distributor to compare them part-for-part with any valve of similar type which you may be using. It will be a revelation that you can actually *see* so much difference with the naked eye!





IRON BODY "FERRENEWO"
FIG. 1021-P
150 lb. S.P.

BRONZE "RENEWO"
FIG. 73-P, 200 lb. S.P.
FIG. 16-P, 300 lb. S.P.

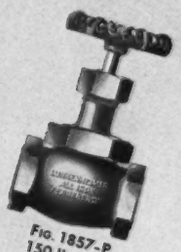


FIG. 1857-P
150 lb. S.P.
ALL-IRON

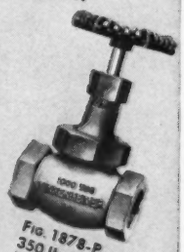


FIG. 1878-P
350 lb. S.P.
BRONZE

ESTABLISHED 1862

THE LUNKENHEIMER CO.

"QUALITY"

CINCINNATI, OHIO, U. S. A.

NEW YORK CHICAGO
BOSTON PHILADELPHIA

EXPORT DEPT 318-322 HUDSON ST., NEW YORK

LUNKENHEIMER

Send for copy of our new Catalog No. 78. We will include our handy "Guide" which makes selection easy by grouping valves, boiler mountings, and lubricating devices according to pressures, temperatures, and service applications.

franklin process service

WHAT IT MEANS TO MANUFACTURERS OF
SPORTSWEAR . . . COTTON OR SPUN RAYON

FRANKLIN Process has played an important part in the growth of the sportswear business (particularly knitted garments) because we have equipped ourselves to meet the particular requirements of the trade. That is, we render a COMPLETE yarn service.

We carry a big stock of yarns, can dye them in large batches (up to 2500 lbs.) to assure uniform shades in solid color areas and have steadily increased our cone winding capacity with modern equipment to promote prompt deliveries and smooth running yarn.

Colors are specially developed with a view to fastness requirements and processing is controlled to produce a yarn of the necessary softness.

Franklin Process offers you unequalled package dyeing experience, well running yarns and CENTRALIZED responsibility.

FRANKLIN PROCESS *Natural Yarns, Colored Yarns, Glazed Yarns, Custom Dyeing.* Providence, Philadelphia, Greenville, Chattanooga • New York Representative, 40 Worth St. • Chicago Representative, 100 W. Monroe St.

WE ALSO DYE YARNS FOR
dresses • chenille fabrics • shirts • pajamas • underwear • handkerchiefs • curtains draperies • upholstery fabrics • terry cloth narrow fabrics • braids • elastic fabrics wire covering • hosiery

franklin process

★ LARGEST PACKAGE DYERS IN THE WORLD

NEW BEAUTY FOR COTTON, VISCOSE and ACETATE FABRICS

There's a richer, softer, fuller hand in today's fine fabrics.. Mill men have found out about PARAMINE. They know that to specify PARAMINE is to assure a highly desirable finish which will not change the shade or develop rancidity or objectionable odors. ★ And mill executives are pleased to find that PARAMINE gives an extra-mellow softness and added sales value without increasing, and often lowering finishing costs.

Gratifying reports are constantly being received from new customers concerning their success with PARAMINE. *A demonstration or a test of* PARAMINE *in your plant probably will add your name to the growing list of our satisfied customers. May we serve you?*

ARKANSAS
CO·INC·
NEWARK NEW JERSEY

PARAMINE

REG. U. S. PAT. OFF.

BLEACHER UMPIRES ARE OFTEN WRONG!

Near or far, anyone can guess. But the man who gives answers you can rely on is the dust-covered gent who stands right over the action.

The right answers are just as difficult in industry, as more exact manufacturing requirements add to friction's potential cost. And in the serious business of keeping down these costs, Shell men are succeeding daily by using the umpire's reliable system. They are constantly out on the job, working in your plants, getting their facts first hand.

That's why changes in design, speeds, pressures and other operating requirements of your machines don't take Shell men by surprise. They have seen those changes coming, months, sometimes years, before they arrived. And backed by the skill and resources of Shell research, they bring to new machines and old machines alike . . . in a wide variety of industries . . . lubricants that keep down costs from the day they go into service.

It's this "action-on-the-spot" method of getting the facts that pays off—and you are the one it pays. Have you had your Shell man's recommendation for your machines?

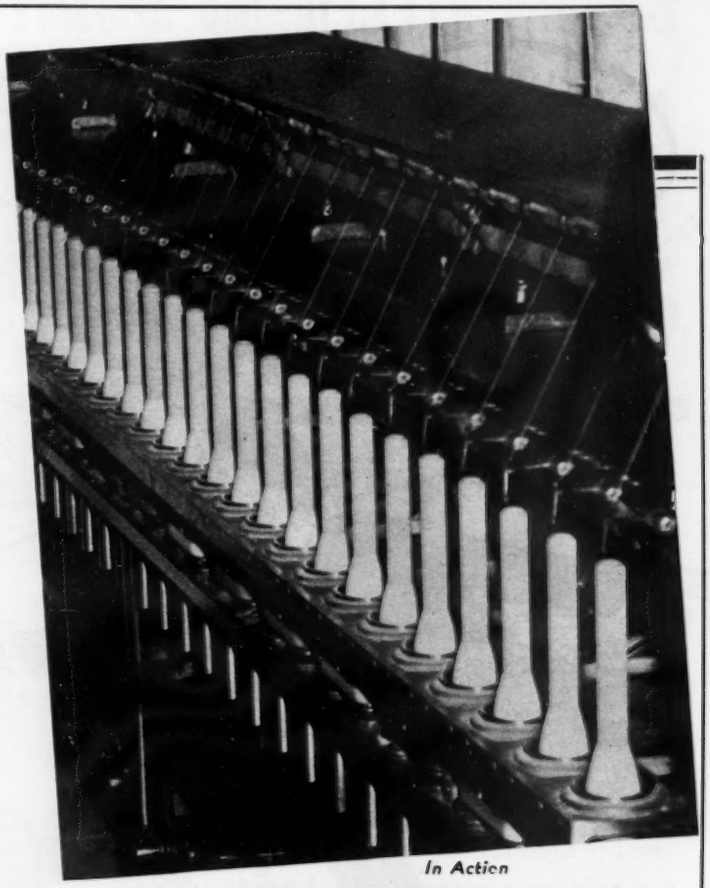
SHELL

SHELL INDUSTRIAL LUBRICANTS

Keep Cool

UNDER HEAVY WORKING FIRE

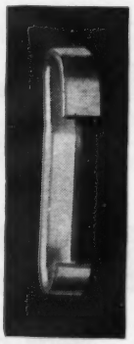
There is no over heating in air-cooled U. S. Ring Travelers — regardless of load or spinning speed-- no burning out--no lost production--

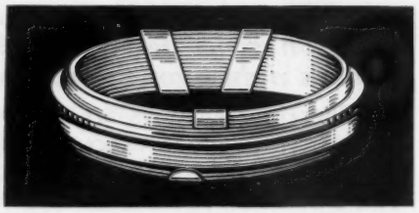


In Action

Here's Why—

U. S. Ring Travelers are made from carefully selected, pre-tested materials. Metal Alloys are RIGHT. Speed of the traveler helps cool it. Precision manufacturing by craftsmen long known in the industry make U. S. Ring Travelers the most efficient—avoid extra cost—don't experiment with ordinary ring travelers. Standardize on U. S. Ring Travelers. Write for prices and free samples.





U. S. RING TRAVELER COMPANY

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

SOUTHERN REPRESENTATIVES:

WILLIAM P. VAUGHAN.....P. O. Box 792, Greenville, S. C.
WILLIAM H. ROSE.....P. O. Box 792, Greenville, S. C.
TORRENCE L. MAYNARD.....P. O. Box 456, Belmont, N. C.
OLIVER B. LAND.....P. O. Box 158, Athens, Georgia

UNIVERSAL STANDARD RING TRAVELERS

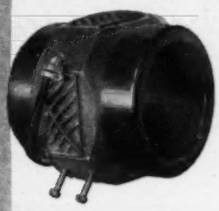
U.S. RING TRAVELER CO.

BOWEN PATENTS

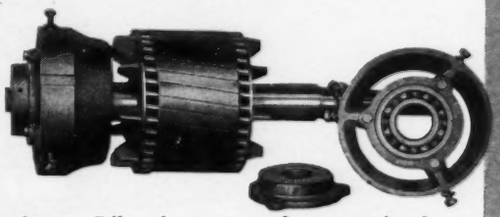
"A Traveler for Every Fibre"

MONEY-SAVING FACTS ON QUICK-CLEAN MOTORS!

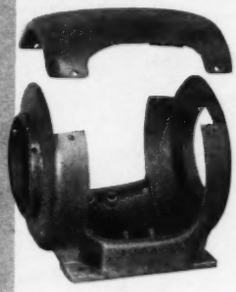
THEY BEAT LINT ...AND POWER BILLS, TOO!



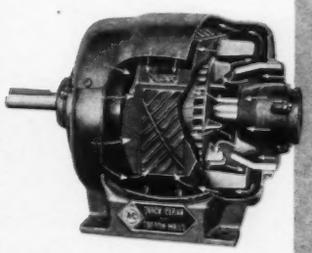
NO LINT OR FLY CAN ADHERE to the Quick-Clean's smooth, hard stator surfaces — a big factor in making these motors lint-proof and fly-proof. All working parts are dust-sealed. The stator, rigidly supported on the motor base, is easily removable . . . interchangeable. Note how coils are completely shielded—another important Quick-Clean feature.



INDESTRUCTIBLE ROTOR is mounted on ball bearings in sealed cartridge units that keep oil in . . . keep dust out. The Quick-Clean Rotor is silver brazed . . . and is rigidly supported on the motor base. Like the stator, the rotor is also removable as a unit . . . and can be interchanged readily. These rotor features combine to give long life . . . lowest possible maintenance.



RIGID FOUNDATION for Stator and Rotor is provided by the one-piece steel base and bearing support. Points of support for stator and rotor are accurately machined at one setting, insuring uniform air gaps. Extra protection is given the stator by an easily removable cover plate.



HERE'S THE QUICK-CLEAN PRINCIPLE! Dust-laden air drawn into motor is ejected at sides. Air passages are large and unobstructed . . . and all inside surfaces are glass-smooth, making it impossible for lint or dust to adhere. In Quick-Clean Motors you get full-measure construction throughout . . . extra-value performance that's bound to save you money!

A-1273

Find Out About Allis-Chalmers Quick-Clean Motors . . . and How They Solve Lint and Dust Problem in Hundreds of Textile Mills!

LINT, DUST and fly in textile mills were once the great obstacles to efficient motor operation. But that was before development of Allis-Chalmers Quick-Clean Motors.

Today—the threat of dust and lint clogging motors is gone forever!

Today — hundreds of up-to-date mill operators use these motors because they know they do a modern job for them . . . because they know Quick-Cleans have been tailor-made for their particular problems!

If you haven't already switched over your plant to Quick-Clean Motors . . . get the story about them at once! You'll be amazed at their smooth operation . . . their low cost for maintenance . . . their low power demand!

Read the facts in the panel . . . then get in touch with the engineer in the district office near you. Or write Allis-Chalmers, Milwaukee, for the complete money-saving story!

Over 90 Years of Engineering Superiority Work for You When You Specify Allis-Chalmers!

ALLIS-CHALMERS

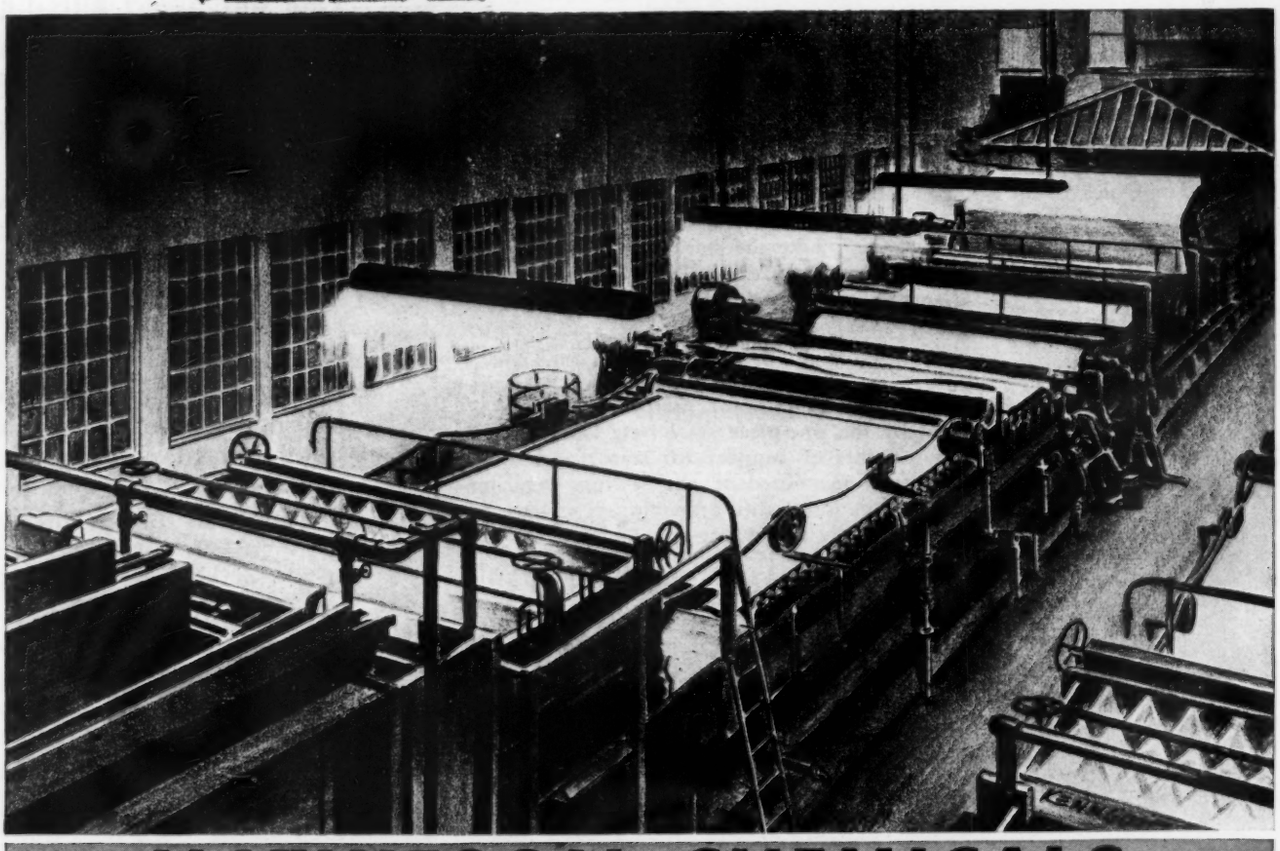
MILWAUKEE · WISCONSIN

"PRINTED IN U.S.A."

Suppose some one who lived forty or fifty years ago—say one of the founders of Mathieson—could pay us a visit today. And suppose we could have the pleasure of showing him the sights of 1940, of explaining the vast changes that have taken place since the turn of the century. What do you think would amaze the old gentleman most? If he were one of the pioneers who founded Mathieson, we believe he would be most interested in the revolutionary changes wrought by chemical progress and in the part his successors have played in building the present-day America. We would go about telling him the story as we tell it in this series of advertisements.

● Yes, Mr. M., more than 19,000 periodicals were published in the United States last year, and hundreds of thousands of advertising mailing pieces, catalogs, etc. were printed and issued. Millions of pages of information, entertainment, ideas and critiques—reflections of this nation's thoughts and hopes. All of this consumed over 4,000,000 tons of white paper. Add the millions of tons of Kraft paper now produced annually and you have some idea of the amazing progress that has been made in recent years by this country's great paper industry—progress as noteworthy in quality as in quantity.

Your successors here at Mathieson are proud of the fact that Mathieson Chemicals—liquid chlorine, caustic soda, soda ash, synthetic salt cake—have played and continue to play so important a part, from cooking liquor to finished bleached pulp, in the great American paper industry.

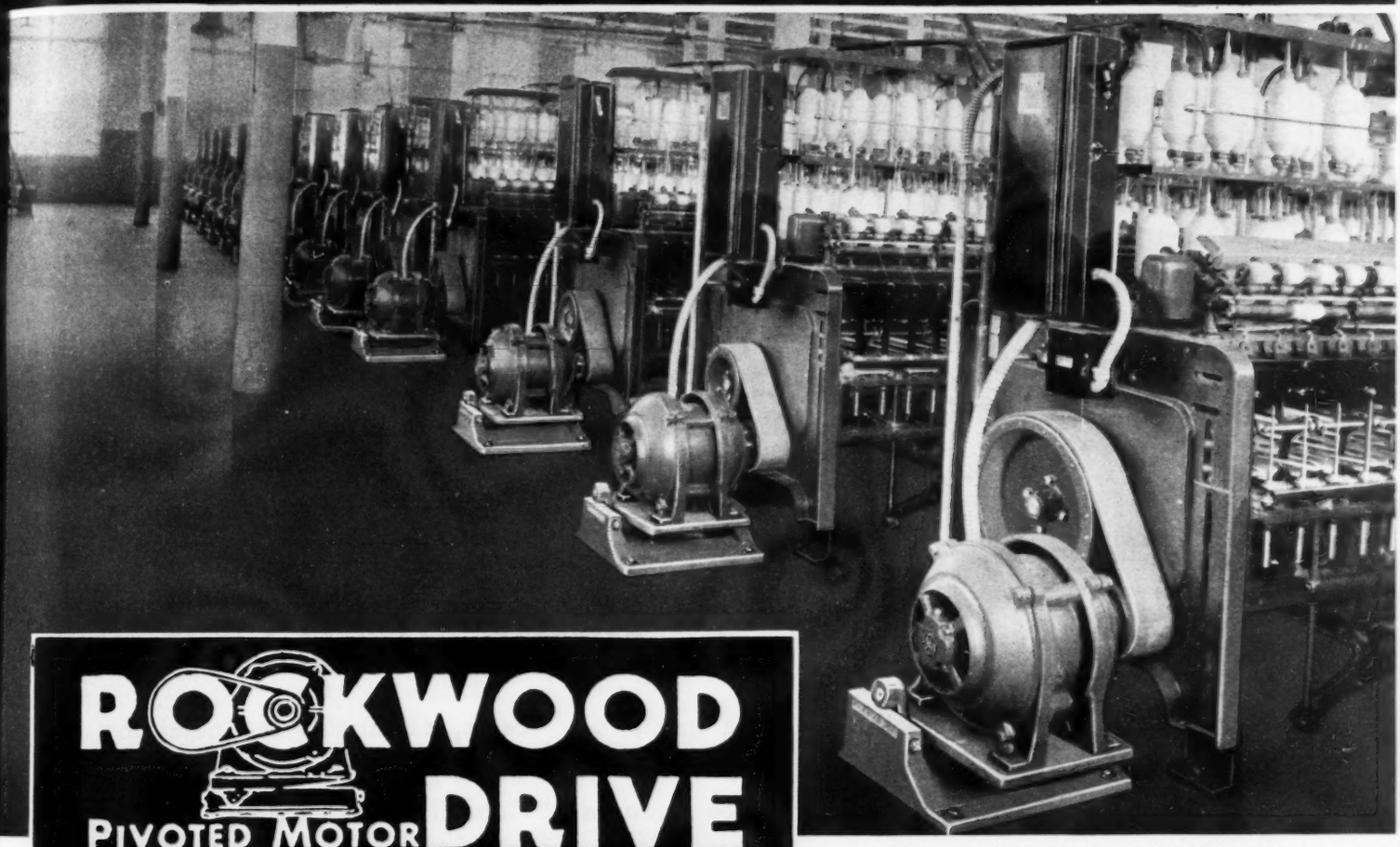


MATHIESON CHEMICALS

SODA ASH . . . CAUSTIC SODA . . . BICARBONATE OF SODA . . . LIQUID CHLORINE . . . BLEACHING POWDER . . . HTH PRODUCTS . . . AMMONIA, ANHYDROUS and AQUA . . . FUSED ALKALI PRODUCTS . . . SYNTHETIC SALT CAKE . . . DRY ICE . . . CARBONIC GAS . . . ANALYTICAL SODIUM CHLORITE

THE MATHIESON ALKALI WORKS (INC.)
60 E. 42ND STREET, NEW YORK, N. Y.

NEWNAN COTTON MILLS CHOOSE ROCKWOOD pivoted-motor DRIVES.



ROCKWOOD PIVOTED MOTOR DRIVE

Large, modern Newnan Cotton Mills, Newnan, Georgia, uses Rockwood latest floor type spinning frame drives in this neat installation.

A VERY SIMPLE AND PROFITABLE COMPARISON FOR YOU TO MAKE

FIRST jot down the calculated speeds—the speed at which you *think* your various machines are running. Then, for a period of two or three weeks take the *actual* speed readings of the same machines under normal operating conditions.

Unless your plant is exceptional you may be greatly surprised. Speed variations from five to fifteen per cent are not uncommon and you know what that means — both to quality of work done and the amount of production.

There is *one sure way* to overcome expensive speed variations — *use Rockwood Drives.* The pivoted motor mounting instantly adjusts itself for each variation in belt length. In addition the drive automatically tightens or slackens itself with each and every change in load. Thus belt slip is practically eliminated and uniform driven machine speeds can be counted upon.

Uniform speeds, uniform quality and maximum production are what you receive when you equip your motors with Rockwood Pivoted Motor Drives.

For the first time a short center motor drive that is TRULY SATISFACTORY

That is why so many leading textile mills are changing to them. JOIN THE PROCESSION. Ask your nearest Rockwood dealer to have a Rockwood Engineer call–or write us and we will be glad to make recommendations.

ROCKWOOD MANUFACTURING CO., INDIANAPOLIS, IND.

We interrupt - -

for an **IMPORTANT NEWS FLASH!**

*CETOSOL

is NEWS *itself!*

Under this name a group of synthetic resins developed by Stein-Hall laboratories opens a new era of textile treatments. ★ The properties of Cetosol climax years of research by Stein-Hall technicians in laboratory and field. ★ Cetosol brings definite advantages in sizing, finishing and printing cotton, filament or spun rayons of varied types and all popular fibre mixtures. ★ It marks a forward step in sizing methods and, in certain cases, eliminates the need for desizing. ★ Used in finishing, Cetosol provides deeper penetration, greater flexibility and laundry resistance. ★ Extreme clarity, binding power and fastness commend it for printing color pigments, white discharge, white overprints and direct or acid color work. ★ Stein-Hall technicians will gladly show you how the various types of Cetosol can meet your specific needs.

SH
EST. 1866

STEIN, HALL & COMPANY, Inc.

285 MADISON AVENUE NEW YORK

LABORATORIES AT . . NEW YORK • CHARLOTTE • PROVIDENCE

* Patents applied for

..."these modern spinning frames are MAKING A FINE RECORD with *GULFGEM OIL*"

(*Right*) Actual photo of a Gulf engineer on a Periodic Consultation Service call—discussing spindle lubrication with the Superintendent and Overseer.

"The* GULF ENGINEER *helps us maintain peak efficiency on a full-time operating schedule"

"WE are satisfied that the trouble-free operation we are enjoying from our new high-speed spinning frames can be attributed in large measure to the remarkable stability of Gulfgem Oil," says this Mill Superintendent. "Our maintenance costs have been negligible, and we've practically eliminated loss of time due to machinery shutdowns. We're proud of the new production records we're making—thanks to Gulfgem."

The wide use of Gulfgem Oil in leading mills throughout the country is largely due to this fact: *This remarkable oil has been refined by Gulf's Alchlor process.* By the use of this famous refining process, oils with greater stability than any of which we have record can be manufactured. Thus long service with minimum deterioration and a low rate of consumption is assured. Its high resistance to oxidation and gumming insures minimum friction drag in spindles—and lower power bills.

Ask the Gulf engineer to help you get the economies you can expect from Gulfgem—write or phone today! Gulf maintains 1100 strategically located warehouses in 30 states from Maine to New Mexico. You can expect prompt service.

GULF INDUSTRIAL LUBRICATION

Gulf Oil Corporation - Gulf Refining Company
3813 Gulf Building, Pittsburgh, Pa. C.

Please send me my copy — no charge — of the booklet "GULF PERIODIC CONSULTATION SERVICE."

Name.....

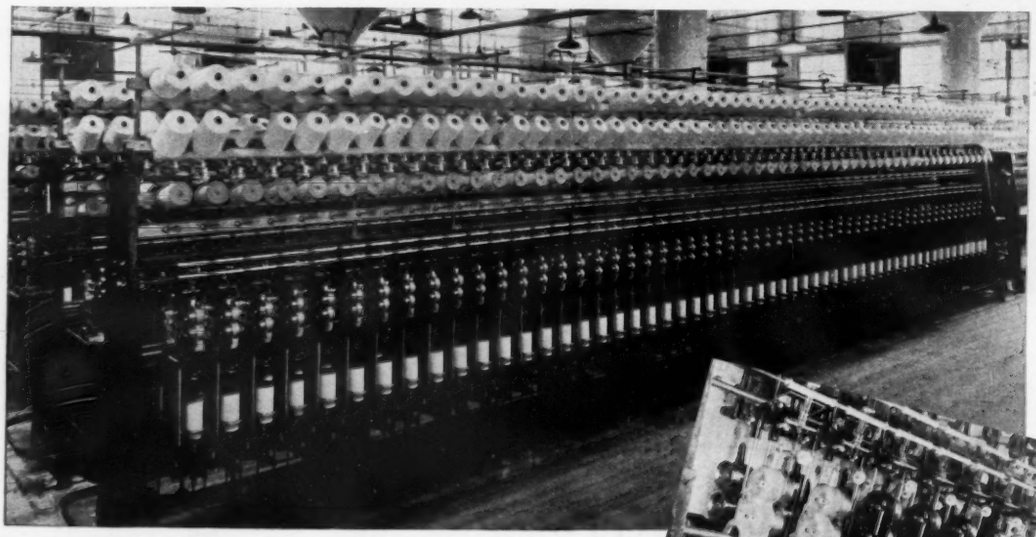
Company.....

Address.....

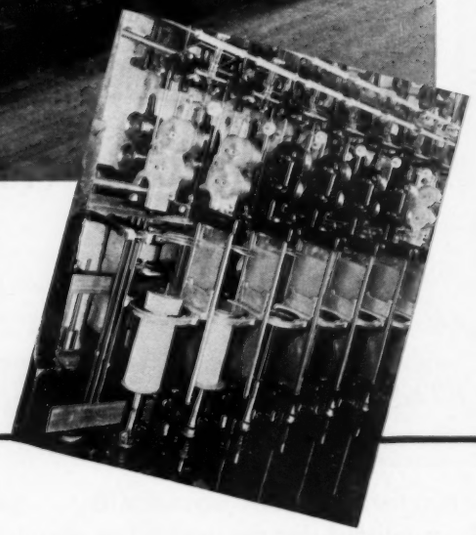
MAZLO
Reg. U.S. Pat. Off.

MAGNESIUM ALLOYS

THE LAST WORD IN LIGHTNESS



Doubling and twisting machine manufactured by U. S. Textile Machine Company, Scranton, Pa.



Low inertia parts lift twisting machine efficiency

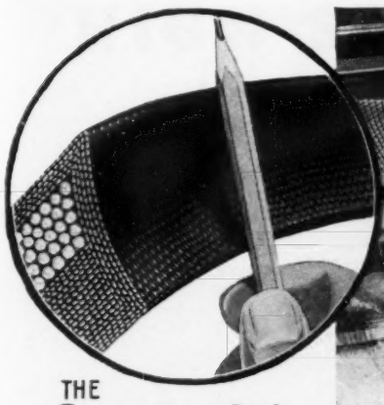
Put yarn on a bobbin right, and the efficiency of every operation concerned is boosted. Two traverse bars of Magnesium Alloy extrusions help this doubling and twisting machine do that job *right,* and at high speed.

Because Magnesium traverse bars are light in weight, their counterbalancing weights are also light. This means much less inertia to be overcome as the direction of travel of these parts is instantly reversed. The yarn goes on the bobbins exactly as desired.

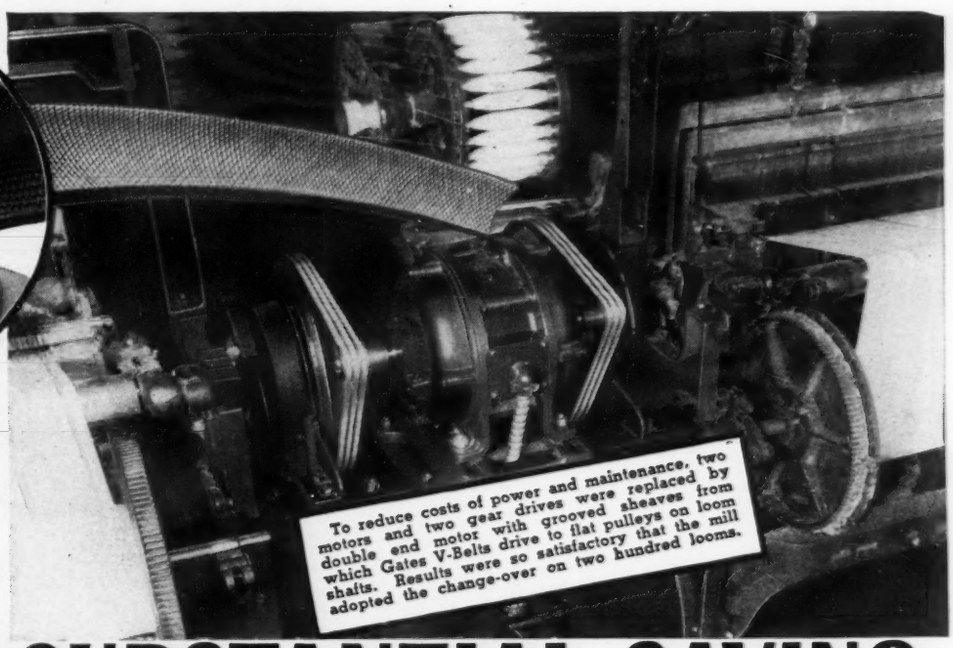
Magnesium machine parts weigh much less than steel and, unlike wood, they do not swell or warp with changes in humidity. Have you a problem where Mazlo Magnesium Alloys can be employed to advantage? They are available in all commercial forms. *Sales Agent:* Aluminum Company of America, 1704 Gulf Bldg., Pittsburgh, Pa.

MAZLO

AMERICAN MAGNESIUM CORPORATION

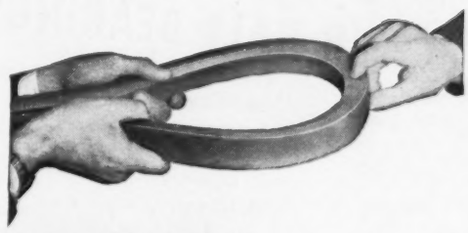


THE **Concave** Side
IS A GATES PATENT



To reduce costs of power and maintenance, two motors and two gear drives were replaced by double end motor with grooved sheaves from which Gates V-Belts drive to flat pulleys on loom shafts. Results were so satisfactory that the mill adopted the change-over on two hundred looms.

Learn of a SUBSTANTIAL SAVING in BELTS and POWER by making This Simple Test



What Happens When a V-Belt Bends

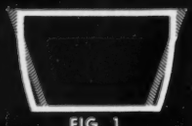


FIG. 1

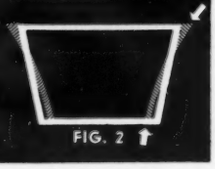


FIG. 2

Grip with your fingers the sides of any V-Belt; then bend the belt and feel the sidewall change shape. Being under tension, the top of the belt narrows. The bottom, compressed, becomes wider. The sidewalls bulge. These stresses distort a straight-sided V-belt into a shape that does not fit the sheave groove—as shown in Figure 1 (on the left). Note the out-bulge of the sides.

Now bend a V-belt built with the patented concave side. You'll feel the same stresses, the same shape change with this big difference: the altered shape exactly fits the sheave groove—as shown in figure 2. Two advantages result. (1) No sidewall bulge; therefore uniform sidewall wear; longer life! (2) Full sidewall grip on the pulley; therefore less slippage on heavy loads or sudden load increases—a saving in belt wear and also in POWER.

The Gates Vulco Rope is the only V-Belt built with the patented concave side.

V-Belt in Sheave

It's the sides of a V-Belt that do all the gripping and get all the wear. That's why longer life for the sides means longer life for the belt.

THE GATES RUBBER COMPANY

Engineering Offices and Stocks in All Large Industrial Centers

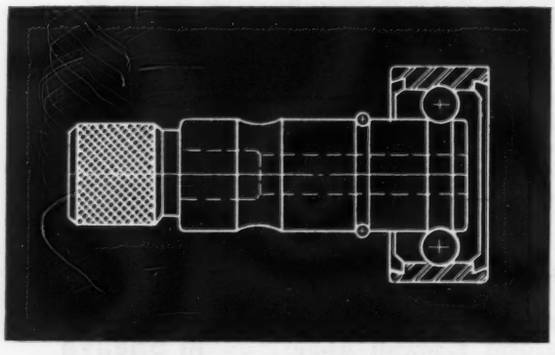
GATES VULCO ROPE DRIVES

CHICAGO, ILL., 1524 South Western Ave. HOBOKEN, N. J., Terminal Building BIRMINGHAM, ALA., 1631 1st Ave., S. LOS ANGELES, CAL., 2240 E. Wash. Blvd.

DENVER, COLO., 999 South Broadway DALLAS, TEX., 2213 Griffin Street PORTLAND, ORE., 333 N. W. 5th Ave. SAN FRANCISCO, CAL., 2700 16th St.

Old-Style Pulley Troubles Overcome — Stronger, More Even Yarn Produced

NEW WHITIN TAPE TENSION PULLEYS *Spin Easily On* **FAFNIR BALL BEARINGS**



FAFNIR DEEP-GROOVE, FULLY SEALED PULLEY BEARING FOR LONG LIFE

The Deep-groove Fafnir Ball Bearing incorporated in this new Tape Tension Pulley has been proved in performance for unusually long life. Literally hundreds of thousands of high-capacity Fafnirs are in use today throughout the textile industry, each paying dividends in extra performance over ordinary ball bearings.

THERE'S no longer any need to put up with the disadvantages of tape tension pulleys with old-style wooden bearings – the shielded, prelubricated Fafnir Ball Bearing in the new Whitin Tape Tension Pulley eliminates them all.

Through the use of this design, tape tension can be reduced yet more uniform spindle speeds result. Tape life is increased, with stoppages for slipped tapes a thing of the past. Lint is absolutely eliminated from the ball bearing through use of double shields which also retain the lubricant. Power savings are worth while.

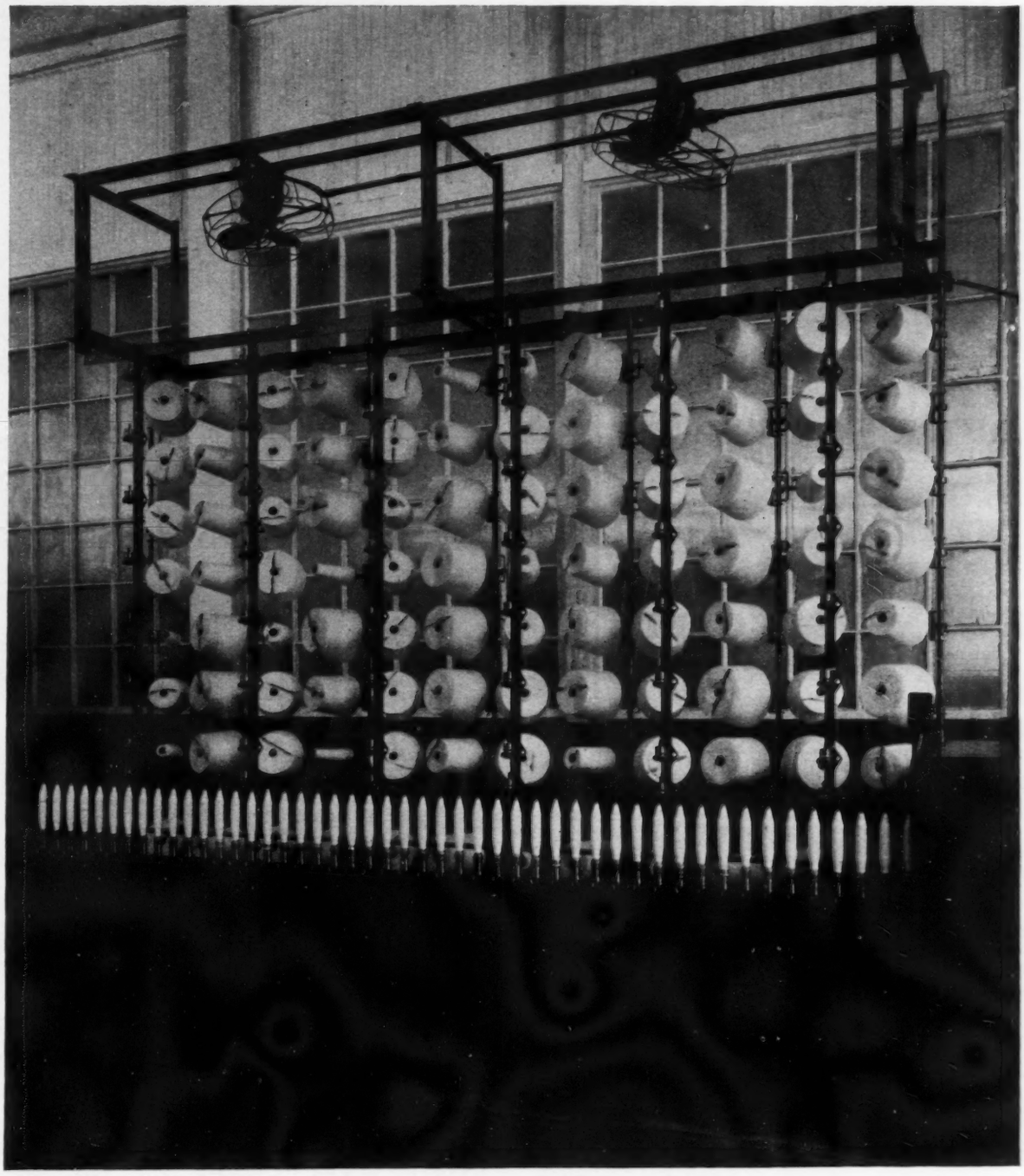
Lubricated by a grease cup, holding just the right amount of grease for a full year's continuous operation, this ball bearing pulley can be furnished on specification. Or, it is available to replace your old pulleys, requiring no alteration other than the installation of new hangers. Full details on request. The Fafnir Bearing Co., New Britain, Conn. Branch Offices: Atlanta . . . Birmingham . . . Boston . . . Charlotte . . . Dallas.

FAFNIR *Ball Bearings*

THE BALANCED LINE • MOST COMPLETE IN AMERICA

HIGH SPEED FILLING WINDER

4200 RPM SPINDLE SPEED



LOW LABOR AND INVESTMENT COST

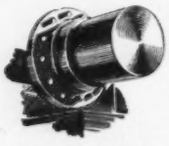
ABBOTT MACHINE COMPANY

WILTON, N. H.

L. S. LIGON, SOUTHERN REPRESENTATIVE, GREENVILLE, S. C.

WASTE IS NO SECRET HERE

...BUT A 50% WASTE HERE* WAS UNSUSPECTED



"Conditions in our mill involving heavy pressure and high temperature seemed too severe for the grease being used in our bearings. It thinned down and oozed out. » » »*"We switched to Tycol Green Cast Grease. Bearings ordinarily packed twice a day, now require only one filling. The Tycol Grease resists separation better – and even under the most severe conditions gives complete satisfaction." » » » Like thousands of Tycol users, this operator gets more lubrication per pound of grease because Tycol Green Cast Greases have more high-grade paraffine base cylinder oil—less soap. They "stay put" even in worn bearings—result: a good film of protection. Tycol Green Cast Greases are made of a consistency to suit every need. » » » Why not search your plant for hidden losses resulting from poor lubrication? You may discover new operating economies. A Tide Water engineer will gladly help you make the survey. He will recommend the Tycol lubricant "engineered to fit your job."

Regional Offices: Boston, Philadelphia, Pittsburgh, Charlotte, N. C.

TIDE WATER ASSOCIATED OIL COMPANY

EASTERN DIVISION, 17 BATTERY PLACE

New York, N. Y.

INDUSTRIAL TYCOL OILS-GREASES

TIDE WATER INDUSTRIAL LUBRICANTS

THERE IS A COMPLETE LINE OF TYCOL LUBRICANTS SCIENTIFICALLY ENGINEERED FOR EVERY INDUSTRIAL USE

LARGER SPROCKETS

MILE-A-MINUTE CHAIN SPEEDS

AMAZING RESULTS

Simply using larger sprockets with more teeth, running chain speeds up to a mile a minute or more, gives an enormous increase in the power-transmitting capacity of Morse Chain.

Where such treatment results in more slip on other drives, the silent chain actually uses centrifugal force to give better contact with sprocket teeth and better load distribution.

NOW *Really* SILENT

So smooth you can hardly hear it.

***Increased* LOAD CAPACITY**

Load capacity goes up directly as the chain speed increases. There is no slip—no wasted power with a Morse Silent Chain—no excessive tension to increase bearing loads.

WEAR *Eliminated*

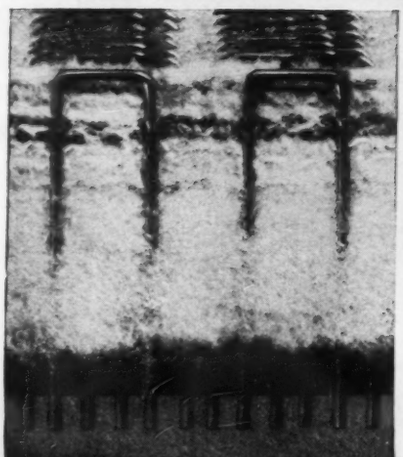
Research has shown and experience proves that wear is at a bare minimum on Morse high speed chain and sprockets. Driving forces are spread over a greater number of teeth, giving longer life and highest efficiency of any mechanical power transmission.

The greatest advantage of this type of drive design comes where speed ratios are not large, such as from 1 to 1, up to 3 or 4 to 1.

SILENT CHAINS ROLLER CHAINS FLEXIBLE COUPLINGS KELPO CLUTCHES

MORSE *positive* DRIVES

MORSE CHAIN COMPANY ITHACA N. Y. DIVISION BORG-WARNER CORP.



Microphotograph shows how Tufferized Card Clothing wires seat square, flat, and firmly into the foundation with wires parallel . . even in length . . spaced uniformly

TUFFERIZED Card Clothing

U. S. PATENT NO. 2,174,173

Helps You Step Into the Lead of the Quality Parade

To a three-quarters of a century reputation for high quality standards is now added a patented-precision-process which further raises quality ideals. Tufferized Card Clothing has an improved uniformity of manufacture which cuts all wires clean and sharp and seats them accurately, evenly and firmly into the foundation. With all wires exactly the same length and exactly the same distance from one another you can set your rolls closer and get more uniform and smoother carding as well as greater ease and freedom in stripping.

Write for additional information or ask our representative

HOWARD BROS. MFG. CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.

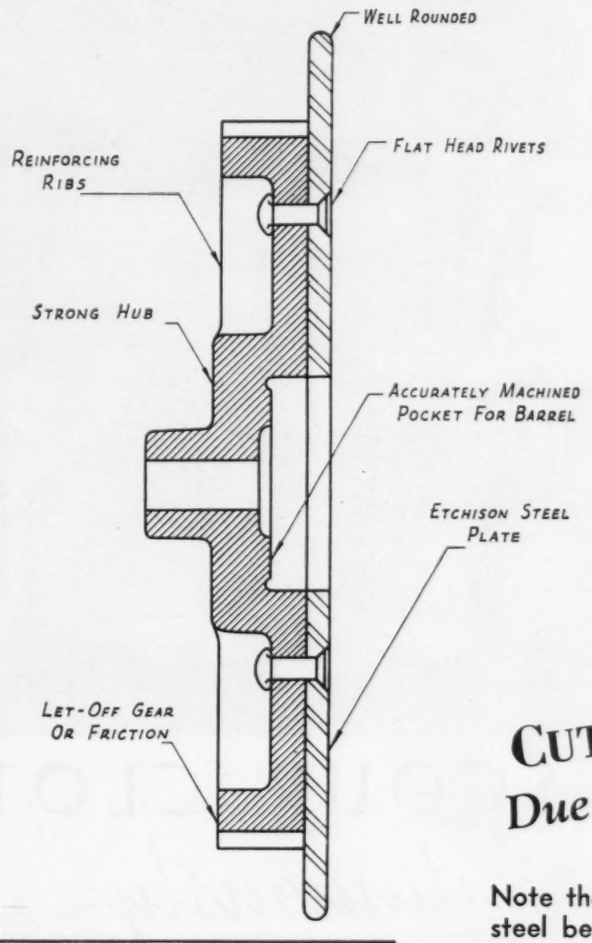
Southern Plants: Atlanta, Ga., Gastonia, N. C. *Branch Offices:* Philadelphia, Dallas
Canadian Agents: Colwool Accessories, Ltd., Toronto 2, Canada

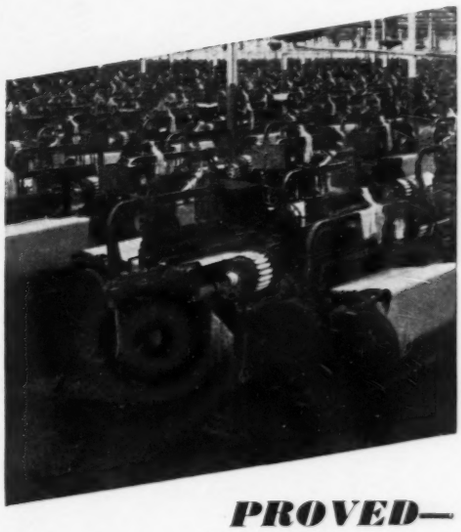
Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards — Napper Clothing, Brush Clothing, Strickles, Emery Fillets, Top Flats Recovered and extra sets loaned at all plants — Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant — Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles

PROTECT YOUR WARPS

With ETCHISON Patented Steel Beam Heads

(PAT. NO. 1,594,159)





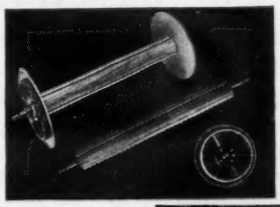
PROVED—
By Performance

CUT DOWN LOSSES
Due to Beam Head Breakage

Note the construction details of an Etchison type steel beam head. A steel plate provided with a cast iron gear or friction let-off replaces the usual cast iron head. The steel plate will not break under the most severe treatment. Both the steel plate and let-off are accurately machined before fastening together with rivets, and the finished head is straight and true. An Etchison steel beam head is practically indestructible. They cost more than a cast iron head, but are worth the difference. They save not only in breakage but also in losses from damaged warps, caused by broken heads. Etchison steel beam heads will help increase efficiency in your weave room.

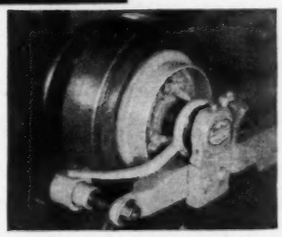
Also manufacturers of special textile machinery, cloth room machinery and textile repair parts.

Other WEST POINT Economizers



LOOM BEAMS AND BEAM-HEADS ... West Point loom beams and beam-heads are superior in their operation and economy.

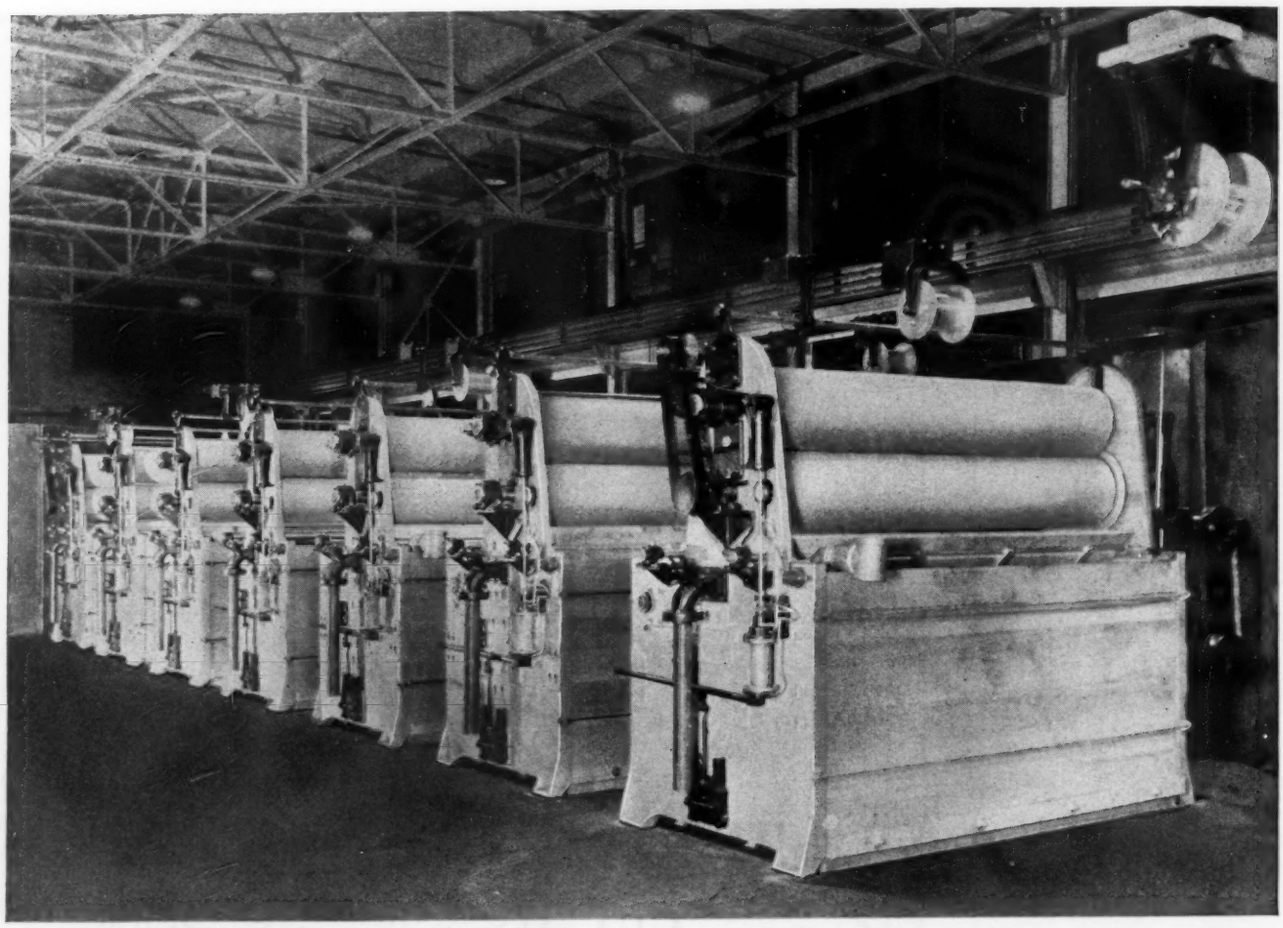
ENERGY LOOM DRIVE . . . makes possible higher production per loom per hour . . . provides smoother loom operation.



WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA



HOW TO SCOUR CLOTH *continuously*

AT 27 TO 40 YARDS PER MINUTE

Installed in one of the largest woolen mills in America, the new Hunter Continuous Washer is scouring diversified fabrics, from blankets to automotives, at speeds ranging from 27 to 40 yards per minute and with a marked economy in use of water and soap.

This new Hunter unit differs from all other known continuous washers in a very important respect. It is this. It may be used either as a continuous range or as 7 or less individual cloth washers which may be used all at one time with 7 different loads, or as few or as many bowls as may be required.

This new unit is relatively low cost in initial expense and is inexpensive to operate. It comes complete with all necessary motors, variable speeds, hydraulic or pneumatic tension for nip rolls, etc. For complete details write to James Hunter Machine Company.

JAMES HUNTER MACHINE COMPANY

FOUNDED 1847 NORTH ADAMS, MASSACHUSETTS

Southern Representatives
CAROLINA SPECIALTY COMPANY
Charlotte, North Carolina

Western Representative
E. G. PAULES
343 Bendix Building
Los Angeles, California

Cut-Down on Returns and Rejects

..the costly R's of production

AMERICAN *Air Filters* PROTECT
ALL operations affected by Smoke, Soot and Dust!

ELECTRO-MATIC AIR CLEANER combines electric precipitation as an integral part of an automatic air filter, for highest cleaning efficiency with smoke and fine soot particles. This is the only electrostatic filter on the market that is self-cleaning and can be operated continuously over long periods without interruptions or shut downs for maintenance.

TYPE P L FILTER for smaller installations. Dry type, easily maintenanced, and approved by the Underwriters Laboratories. Eliminates practically all dust and some smoke from the air.

MULTI-PANEL AUTOMATIC AIR FILTER for industrial air cleaning where large volumes of air are to be conditioned and normal cleaning efficiency is adequate. Self-cleaning feature places operation on purely mechanical basis, and minimizes maintenance. Available in any size or capacity.

Streaking and discoloration caused by dust, soot, and smoke is being eliminated in many plants through the use of American Air Filters. In many cases, the elimination of losses formerly sustained because of returns and rejects have justified the filter installations—but even more important is the consistent uniformity of production made possible by filtered air. Write for the address of the nearest AAF engineer—his experience is available to you without obligation.

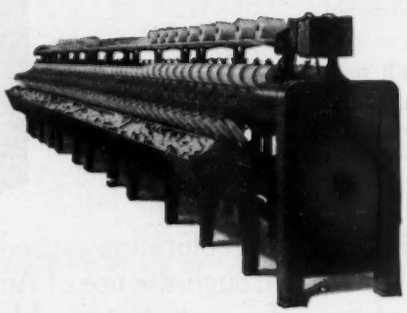
AMERICAN AIR FILTER CO., INC.
Incorporated
731 Central Ave., Louisville, Ky.

AIR FILTRATION AAF DUST CONTROL

Foster Model 102 machines are ideal for winding dyeing packages. The drum wind permits uniform yarn speed on every spindle and at all package diameters. Hence uniform density from package to package and from the inside to the outside of each package is facilitated.

Production is also doubled as compared with older type winders and cost is reduced ⅓.

Flexibility is another feature. 9 different angles of wind are possible simply by changing 4 small gears in the head end of the machine. This quick, inexpensive change assures perfect winding of ply or single fine or coarse yarn.



Write for Bulletin A-91

FOSTER MACHINE CO., Westfield, Mass. Southern Office: Johnston Bldg., Charlotte, N. C.

FOSTER MODEL 102

IT'S ALWAYS HIGH NOON

when we test the light-fastness of NATIONAL PRINTING VATS

Manufactured sunlight glares with intensity on swatches to pre-test the light-fastness of the goods you print with ***National Vat Colors.*** National thus test-checks every color to be certain that its fastness meets or surpasses all accepted standards.

National Printing Vats disperse instantly and are your assurance of crisp, sharp prints that are true-to-shade in every fine line and stipple of the printing roll. They can always be depended upon to meet or surpass every modern color-fast standard.

Attached to each principal National Sales Office is a National Textile Service Laboratory having an unequalled accumulation of test work and technical data. We invite you to use this nearby technical service.

NATIONAL QUALITY

NATIONAL ANILINE & CHEMICAL COMPANY, INC.

40 RECTOR STREET, NEW YORK, N. Y.

BOSTON . . . . 150 Causeway St.	SAN FRANCISCO . . 517 Howard St.	NEW ORLEANS . Masonic Temple Bldg.
PROVIDENCE . . . 15 Westminster St.	CHARLOTTE . . 201-203 W. First St.	CHATTANOOGA . . . . James Bldg.
CHICAGO . . . . . 357 W. Erie St.	GREENSBORO Jefferson Standard Bldg.	PORTLAND, ORE. 646 N. Thompson St.
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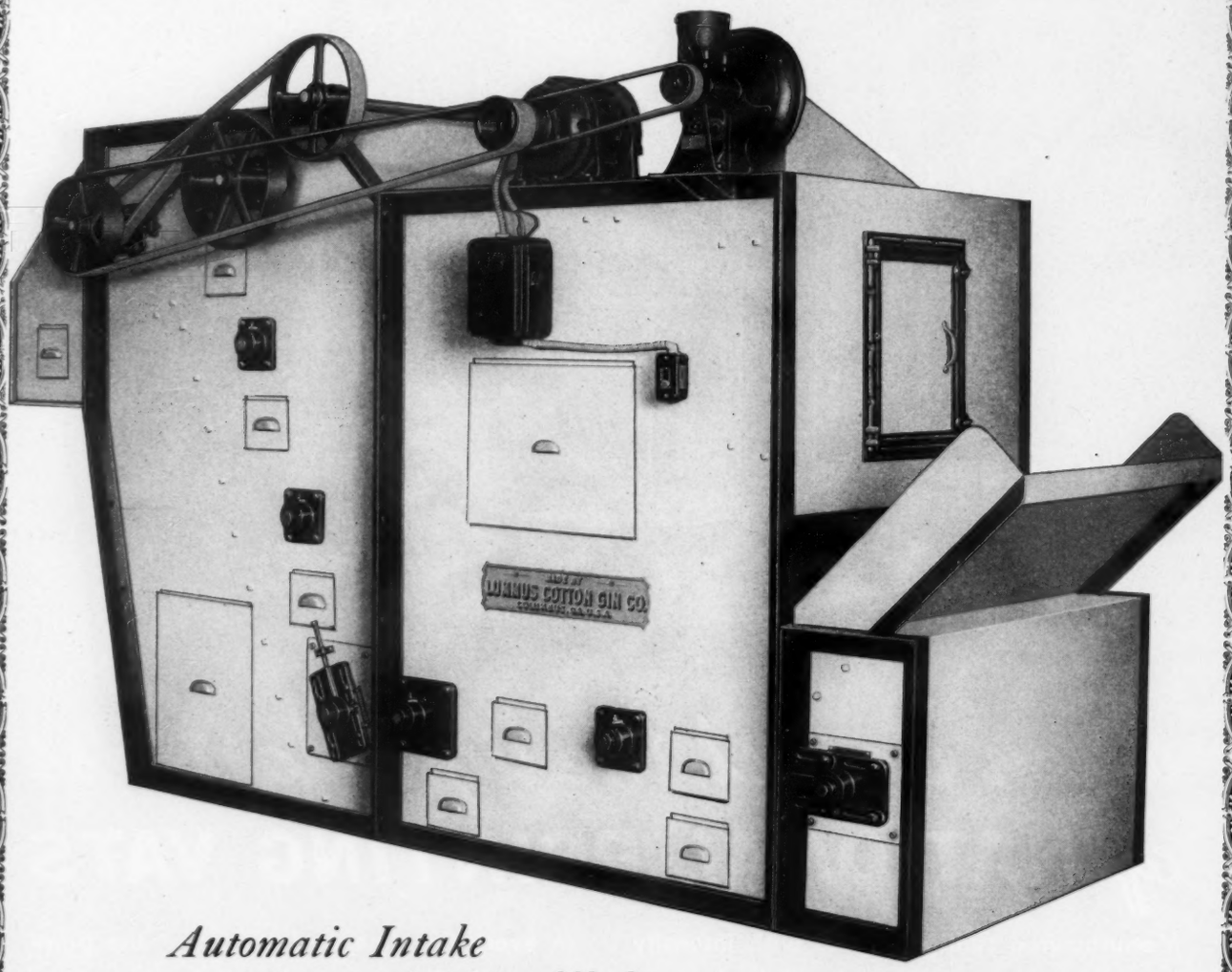
BRANCHES AND DISTRIBUTORS THROUGHOUT THE WORLD

THE LUMMUS BLENDING FEEDER



Automatic Intake
Cannot be Overfilled
Improved Cleaning Grids
Individual Motor and Dust Fan
All Ball Bearing Throughout

Sold by

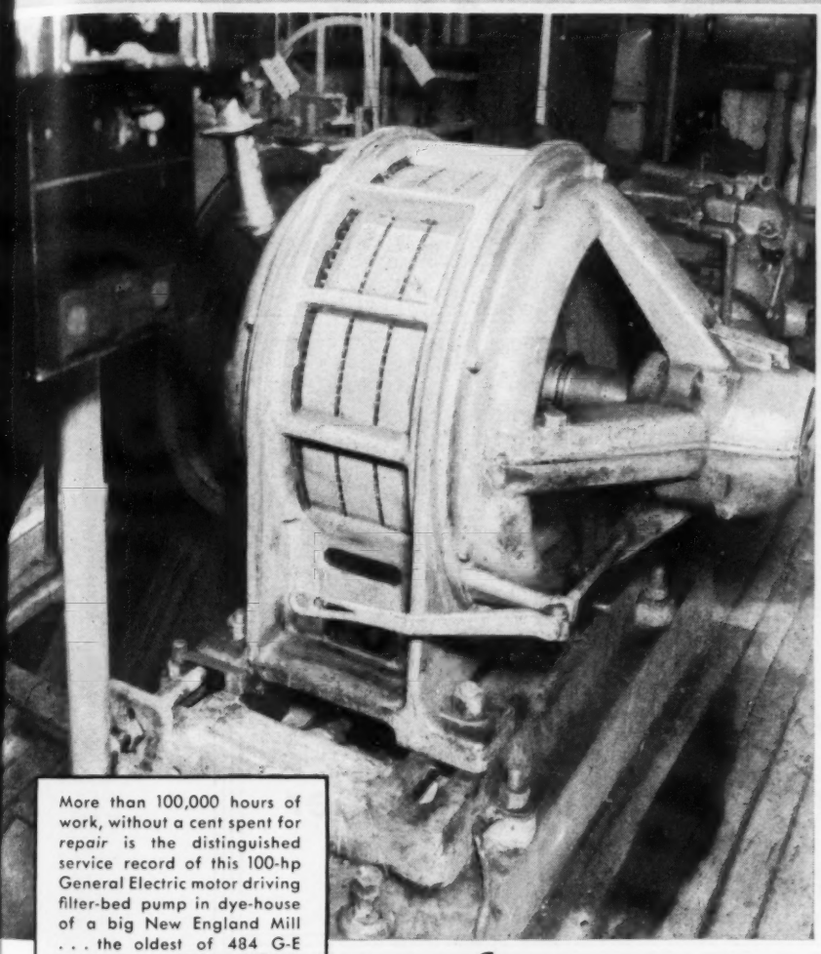
AldricH MachinE

Greenwood, **WorkS** South Carolina

G-E Motor Goes 100,000 Hours

Without Repair—

Then Starts on Second 100,000, on 24-hour-day Schedule



More than 100,000 hours of work, without a cent spent for *repair* is the distinguished service record of this 100-hp General Electric motor driving filter-bed pump in dye-house of a big New England Mill . . . the oldest of 484 G-E motors of various kinds throughout the plant.

THIS "old-man" motor passed its first 100,000 hours of work with a hum as soft, and a torque as vigorous, as in the days of its youth.

It went into action in 1912 driving a dyehouse pump in the worsted division of a big New England mill. That was on a 16-hour-day schedule. Then, in its "old age," in 1934 it started working on a 24-hour day and has kept that up since—*without costing one cent for repairs.* It even runs on the original set of bearings. Meanwhile it had done 100,000 hours of work, and had started on its second 100,000.

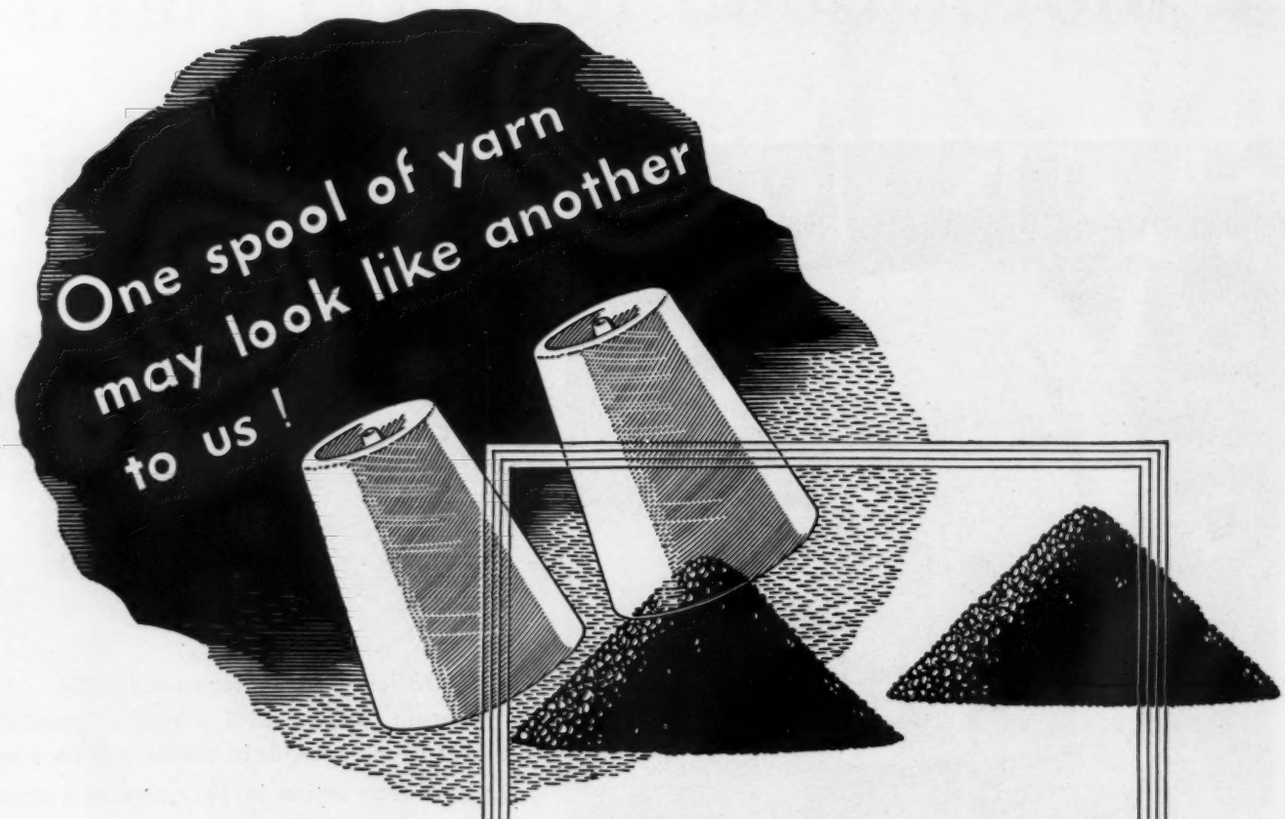
"It doesn't owe us a nickel!" is the tribute of the electrical foreman in charge of this motor and 483 other G-E motors in the mill. What more eloquent proof could there be of the excellent performance, and quality of materials of G-E motors than this example—one of hundreds—of the long-life service of General Electric motors in the textile and other industries.

WHICH SYSTEM OR PRODUCT FOR YOUR MILL?

Do you want to know more about range drives, automatic weft-straightening, or any system whereby electricity can correlate and regulate processes more evenly and exactly? Do you want to know what motor or control to apply to a spinning frame, knitting machine, or dye jig? Whether you want to find out specifically about an electrical *system* or a *product* (such as a motor or control device) you can get expert help from the nearest General Electric office, or write to General Electric, Schenectady, N. Y.

GENERAL ELECTRIC

661-5



And one pile of coal may look like another to you!

YOU could tell us a lot of interesting things about yarn—and we can tell you some profitable things about coal. For we have devoted years of study to the kinds of coal best suited to the needs of various industries, including your own, and the experiences of our many customers reveal instance after instance of the discovery of *extra profits in the coal pile.*

The General Coal Company offers the textile industry a coal to fit every purpose and every analysis requirement. It occupies the unique position of being able to meet a diversity of fuel requirements from a centralized source of supply.

Each General Coal Company brand represents the utmost for a particular field of application—and there is a General Coal office located within a convenient distance of your plant. Communicate with that nearest you for cooperation in securing those "extra profits in the coal pile".

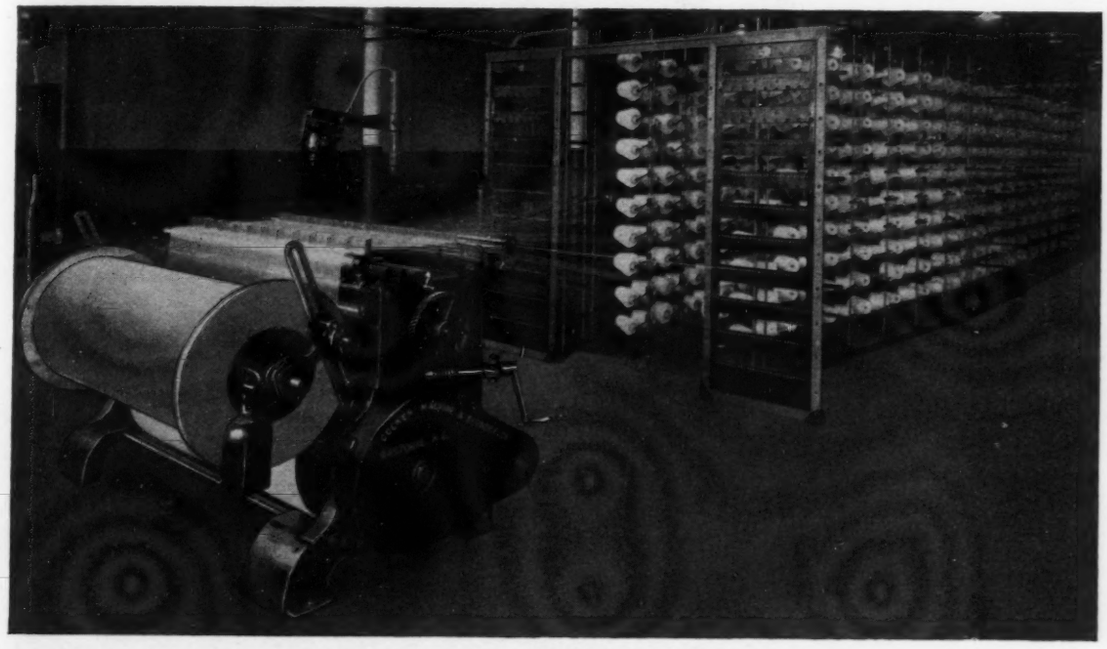
PREMIX STOKER · RODA · Admiralty Coal · DEPENDABLE ANTHRACITE

GENERAL COAL COMPANY
PHILADELPHIA, PA.
BOSTON · DETROIT · NEW YORK · PITTSBURGH
CHARLOTTE, N. C. · CINCINNATI · CHARLESTON, S. C. · BUFFALO

CRITERION COAL · STONEGA · CROZER · GENCO · DENDRON

GENERAL COAL

COCKER HIGH SPEED COTTON WARPER



Illustrated above is the COCKER HIGH SPEED SECTION BEAM WARPER equipped with Electrical Eyeboard Stop Motion and Magazine Cone Creel.

Mills using the Cocker High Speed Warpers as illustrated are saving in costs in Warping, Slashing and Weaving including labor, waste and floor space.

This is only one of the many Standard types of machines we build for making Profitable Warps.

Write or wire us for further details.

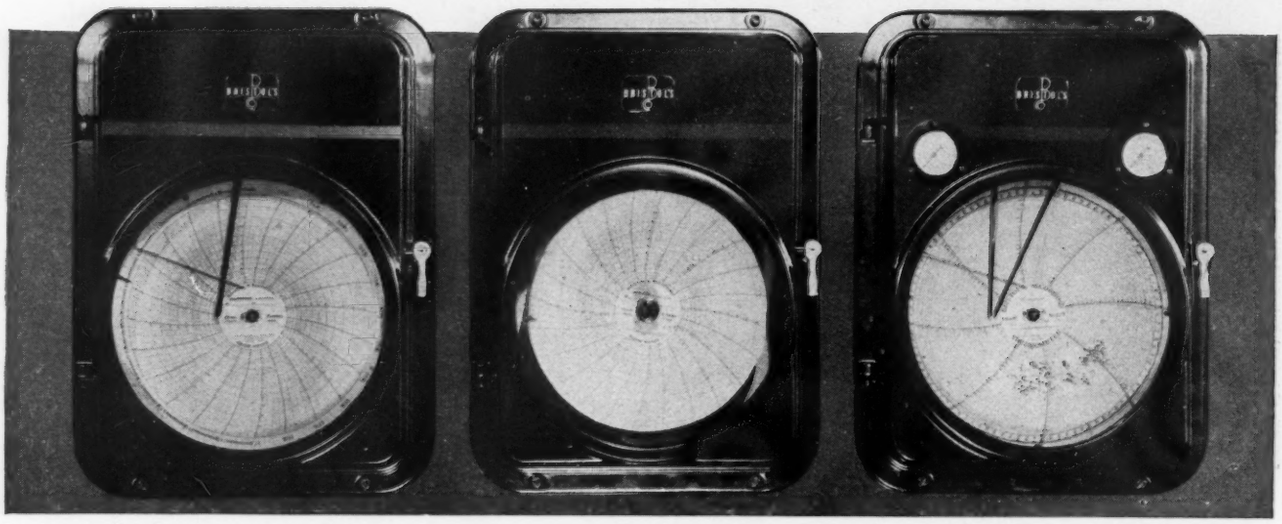
COCKER MACHINE & FOUNDRY CO.

MAIN OFFICE AND WORKS: GASTONIA, NORTH CAROLINA

Builders of All Standard and Special Equipment Used by the Textile Industry for

WARPING AND SIZING OF COTTON, RAYON AND OTHER YARNS

Now, Improved Dyeing at Lower Cost



. . . with BRISTOL'S-CONTROLLED Dyeing Machines!

WHEN you install a Bristol's controlled dyeing machine, practically the entire process from beginning to end is performed automatically. The operator simply presses a button,—and, thanks to Bristol's Automatic Control, the bath is promptly brought up to the right temperature in accord with the desired time schedule. Dye liquor is swished back and forth through the fabric until each strand has been properly dyed. Then at the correct instant the motor is stopped and a signal light flashed, informing the operator to unload the kier.

Every step in the process is done on time every time. By the precision automatic control of all working conditions, dyeing is made uniform, steam consumption and dye materials are held at a minimum, time is saved and the operator's duties are greatly simplified.

WHAT BRISTOL'S AUTOMATIC CONTROL OF DYE PROCESS DOES:

Controls temperature at precisely the correct value.

Maintains the rate of temperature rise exactly the same every time for any given color.

Accurately regulates the time of each step in the process.

Automatically reverses the direction of circulation at uniform intervals,—resulting in even distribution of color between the inside and outside of the beam or package.

By graphically recording the pressure forcing the liquor through the beam, provides a constant check on the winding,—assuring that the beam is wound neither too tight nor too loose.

WHAT BENEFITS BRISTOL'S AUTOMATIC CONTROL OFFERS YOU:

Produces and reproduces a better and more uniform product.

Saves time and dye. By keeping all factors under rigid control, shades can be reproduced without running add-dyes.

Saves steam. None is wasted in overheating.

Relieves operator of laborious task of manually operating the reversing valve every five or ten minutes, adjusting temperatures every few minutes, and constantly watching clock in order to know when to perform the next step in the process.

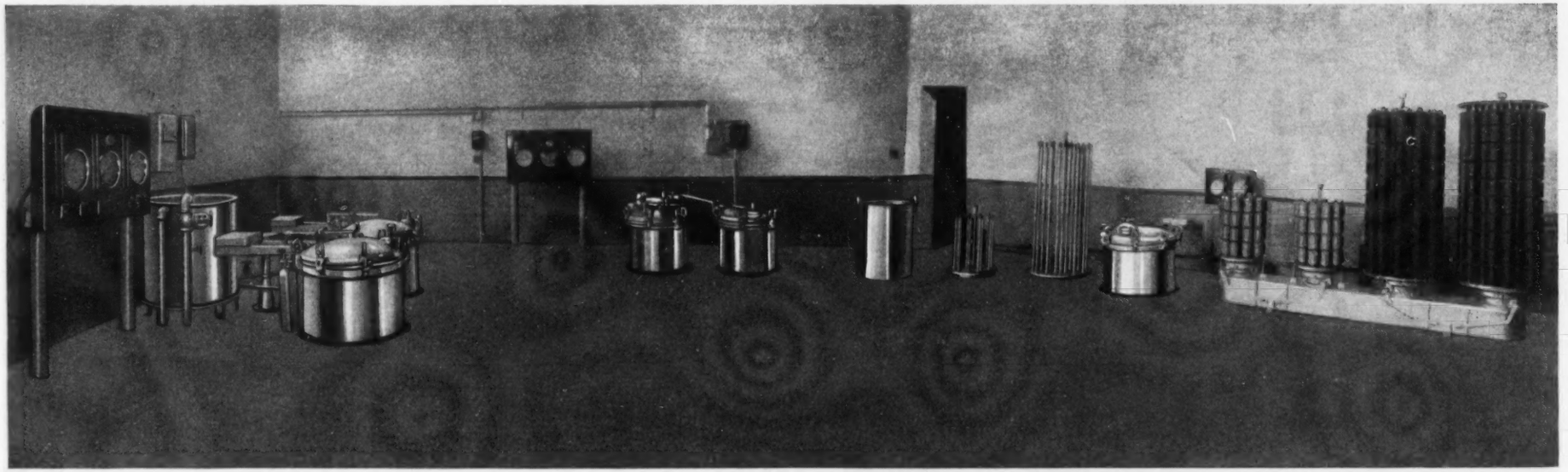
Provides complete records for each lot of yarn dyed,—of especial value when certain conditions are to be duplicated in the future.

Saves space on the operating floor by eliminating levers and hand valves.

THE BRISTOL COMPANY
WATERBURY CONNECTICUT

Branch Offices: Akron, Birmingham, Boston, Chicago, Detroit, Los Angeles, New York, Philadelphia, Pittsburgh, St. Louis, San Francisco, Seattle. Canada: The Bristol Company of Canada, Limited, Toronto, Ontario. England: Bristol's Instrument Company, Limited, London, N.W. 10

BRISTOL'S
TRADE MARK REG. U. S. PAT. OFFICE
Automatic Dye Vat Control
AIR OR ELECTRICALLY OPERATED



A recent installation at Statesville Cotton Mills, Statesville, N. C. Latest type "automatically controlled" stainless steel "pressure type" combination beam-package-roving-dyeing and bleaching machines with movable carriers, including extractor and blower type dryers—also a small lot package dyeing machine.

Scientifically CONTROLLED *Dyeing*

★ EXTREMELY ECONOMICAL

★ HIGHLY EFFICIENT

★ UNIFORMLY EVEN

Many leading mills are standardizing on GASTON COUNTY'S NEW BEAM and PACKAGE DYEING MACHINES because they provide the "POSITIVE" control necessary to keep costs at a minimum and to maintain exceptionally high dyeing standards.

Here are a few of their outstanding features: Machines are automatically controlled from the loading to the unloading of the kiers. Only as much steam and dyestuffs are consumed as essential for satisfactory dyeing. Scientific push button controls eliminate costly mistakes and add-dye delays.

Machines are equipped with automatic time-temperature controls with automatic dye-liquor flow reversing mechanisms, with patented "Flow Controls" and "Running Wash" system. The controls are conveniently located on a panel board installed at the rear of the machines, and can be furnished "air" or "electrically" operated.

The equipment is available in Stainless Steel, Nickel Iron, Monel—in single or multiple kier set-ups in capacities from 1 to 2000 pounds. Compact in design, they require little space.

Our representative will be glad to discuss your dyeing problems with you—or complete detailed information will be furnished on request.

GASTON COUNTY DYEING MACHINE COMPANY

STANLEY, N. C., U. S. A.

Foreign Representatives: INDUNIDAS, S. A., Azopardo 858, Buenos Aires; EDUARD SEELIG, CIA., LTDA., Ruaspedro, 14-520-21, Rio De Janeiro.

HOLDING POWER

UNBRAKO

SELF-LOCKING SET SCREWS

with the Knurled Points

● Just set them up with no more than average effort, and the ingenious knurled cup points automatically lock into place with unyielding tenacity. Once in place, "Unbrako" Self-Lockers simply can't let go no matter how severe the vibration. They *hold on!*

Yet in spite of their grip when in place, these screws are easily applied, as easily adjusted or removed, and they can be used over and over again—indefinitely!

By equipping with "Unbrako" Self-Lockers, many maintenance men in some of the largest textile mills in the country are insuring freedom from the common and expensive troubles caused when ordinary set screws fail to hold. If you're not one of them, investigate "Unbrako" today—*see for yourself!*

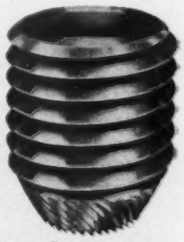
Ask your distributor or write——

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 582

—— BRANCHES ——

BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO



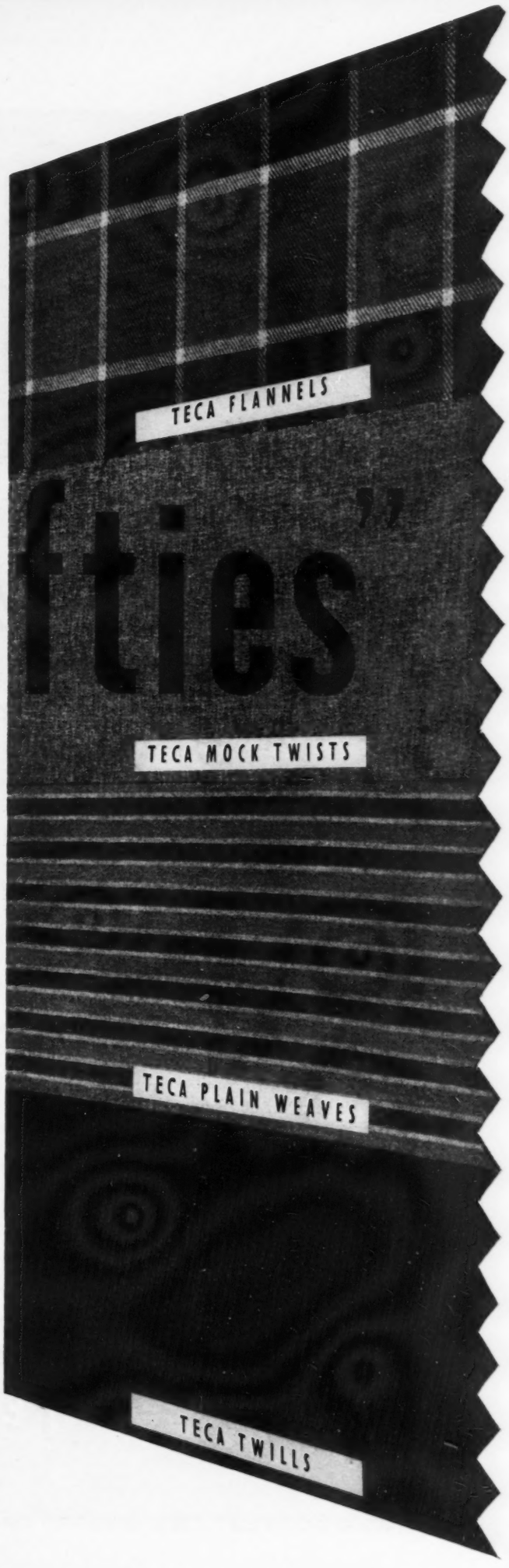
Patented

NEW HIGHS IN FABRIC VALUE

Teca "fifties"

(blends containing 50% or more Teca)

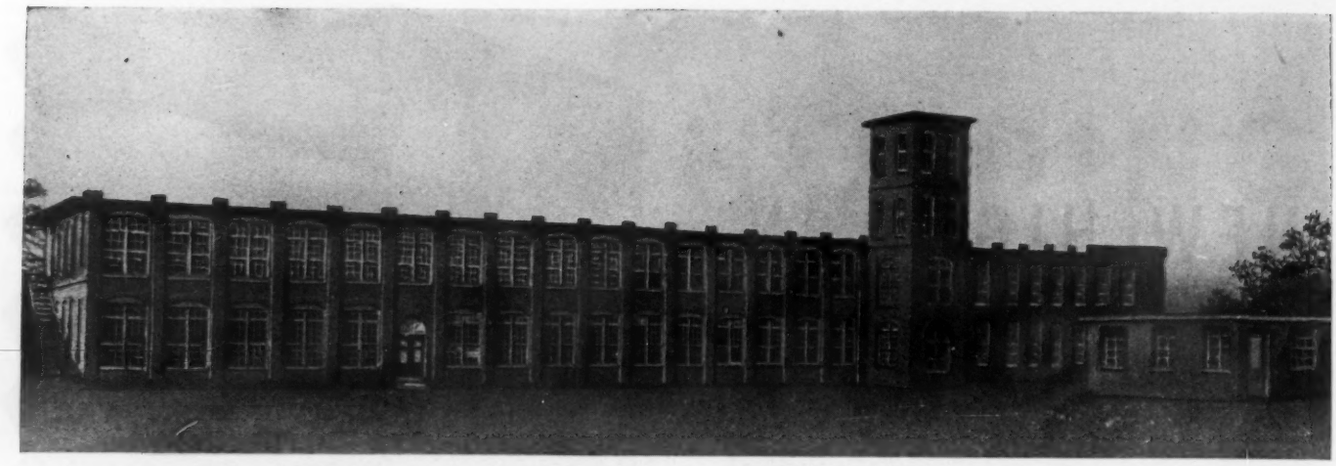
Here are fabrics which really have life in them. Even a small percentage of Teca, Eastman's crimped acetate rayon fiber, blended into a yarn with other fibers, steps up a fabric noticeably. A high percentage results in extra vitality, extra sag and crush resistance. And these are extras that last, because they are more than surface deep. They are built into a weave, through and through. That's why the new "Teca fifties" are among the best sellers in so many of the important fall collections.



Eastman

CRIMPED ACETATE RAYON

A. M. Tenney Associates, Inc., 10 East 40th Street, New York City. Sales representatives for the Tennessee Eastman Corporation, Kingsport, Tennessee, subsidiary of the Eastman Kodak Company.



Steady Achievement

Over twenty years ago, Arthur D. Henderson, with many years of actual textile mill experience, began to realize the great need for better textile repair parts — parts with greater strength at certain points — parts that fitted with more precision — parts that would operate at higher speeds with longer life.

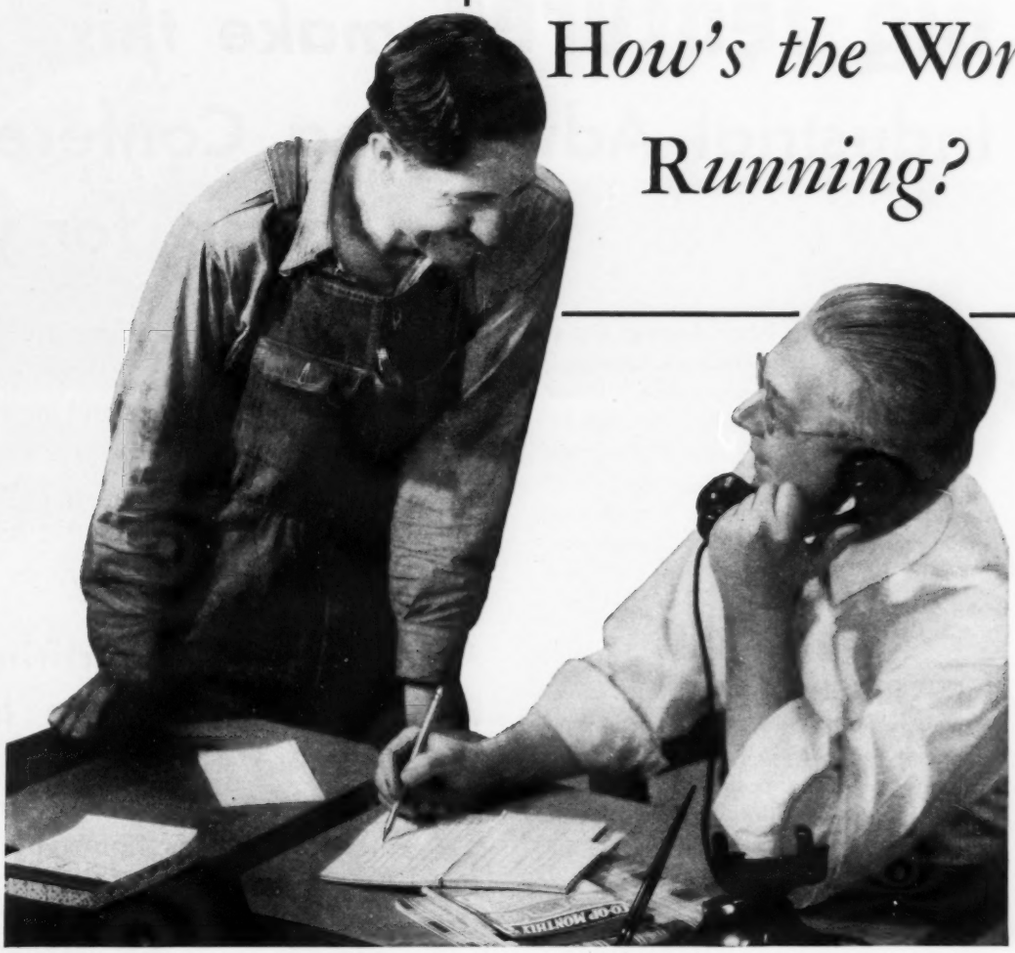
In 1918 he retired from actual mill work and built a small foundry near Hampton, Georgia. The textile parts he began to manufacture immediately found a ready market and the little shop grew into a larger plant of 27,000 square feet and over 100 employees. In 1937 additional space was found necessary and a larger plant was acquired (shown above) giving a total floor space of 92,800 square feet.

Adhering today, more than ever, to their original ideal and purpose, the Henderson Foundry & Machine Works look ahead to the industry's needs of tomorrow and plan to meet the requirements as the industry advances and modernizes. Every member of the Henderson organization takes pride in producing *better* textile repair parts, which is an assurance of the maintenance of the high standards set by Mr. Henderson years ago.

Prices on one or a hundred parts for any make of textile equipment will be sent gladly on request.

HENDERSON FOUNDRY & MACHINE WORKS
HAMPTON, GEORGIA

How's the Work Running?



AVISCO will help it run smoother, because its additional strength provides an additional factor of safety.

As you know, the spun strength of standard rayon staple diminishes rapidly with increased twist beyond normal, and there is increased demand for yarns spun beyond normal twist today. Use of AVISCO solves this problem and gives you added advantages.

AVISCO is measurably stronger than standard rayon staple. It makes yarns as much as 30% stronger dry . . . as much as 36% stronger wet, depending upon count, denier and staple.

Because it shows much less loss of strength when wet than standard rayon staple, this added wet strength can make the difference between a launderable fabric and one that must be dry cleaned or washed by hand. It also contributes added factors of safety for dyer and finisher. And, it results in greater eventual consumer satisfaction with the finished product.

AVISCO was developed originally for cotton process spinning and is now available for worsted and silk spinning as well. It comes chiefly in 1.25, 1.50 and 3 denier—in lengths from 1 9/16″ to 5″. It is made only by American Viscose Corporation. You'll want to get the full facts. Because with AVISCO the work runs better.

HOW MUCH STRONGER THAN STANDARD FIBER IS AVISCO?

Since this question cannot be answered with one figure, the following table is offered as indication of what might be expected in normal cotton mill practice.

1.5 denier AVISCO averages 10 to 12% stronger than 1.5 denier standard fiber, but the yarn strengths compare as follows:

1.5 denier 1 7/16″ strong compared to *1.5 denier 1 7/16″ standard:*

	DRY	WET
30s	17% stronger	21% stronger
40s	13.5	16.
60s	8.	17.

1.25 denier 1 7/8″ strong compared to *1.5 denier 1 7/16″ strong:*

30s	11% stronger	12.5% stronger
40s	14.5	16.
60s	13.5	14.5

1.25 denier 1 7/8″ strong compared to *1.5 denier 1 7/16″ standard:*

30s	30% stronger	36% stronger
40s	30.	35.
60s	22.5	34.

AMERICAN VISCOSE CORPORATION

Lustre Fibres, Ltd.—SELLING AGENTS

350 Fifth Ave., New York City

World's Largest Producer of Rayon Yarn

CROWN TESTED AND APPROVED CROWN RAYON

Copr. 1940, American Viscose Corp.

THE FIRST NAME IN RAYON . . . THE FIRST IN TESTED QUALITY

5 big features *make this* Industrial Advertising Conference *a "must" for you!*

"CLINICS" . . . informal group discussions of "Tying in Advertising with Selling," "Getting Salesmen's Cooperation," "Direct Mail," "Measuring Results," "Market Information," "Copy Testing," "Programs that Management Will Approve," "Layout, Copy and Illustration," "Allocation of Budgets" and other problems. *Inside information on successful methods and campaigns,* and an opportunity to have *your questions answered.*

ADVERTISING DISPLAY . . . direct mail, publication ads, sales literature and company magazines that are being used by hundreds of large and small industrial advertisers. Awards for outstanding work. *Stimulating source of new ideas.*

GENERAL SESSIONS . . . led by national authorities, on current industrial advertising and sales developments. Enable you to *keep abreast of trends that affect your business.*

RELAXATION . . . annual banquet, show, and dance . . . publishers' reception . . . opportunity to visit friends . . . program for wives, including trip through Ford's Greenfield Village.

CUSTOMER CONTACTS . . . you can visit important customers in Detroit plants, see your company's products being used, get first-hand reactions to advertising, take photographs for use in your 1941 advertising and sales promotion.

GOING TO BUY A NEW CAR? — You can save money by taking delivery in Detroit and driving it home.

Markets and selling conditions are changing. But profitable sales await those alert companies who study the trends and improve their practices. At this Conference you will get new ideas that will help you do a better, more efficient job, and make your 1941 advertising and sales promotion program more effective.

All Industrial Advertising and Sales Executives Are Invited

If your company sells to other business organizations, rather than to the general public . . . you will find this Conference devoted 100% to ***your*** problems. You are invited to attend, whether or not you are a member of N. I. A. A.

Write now for program and advance registration form, to Mr. Henry Doering, Registration Chairman, Truscon Laboratories, Inc.; Box 69, Milwaukee Junction P. O., Detroit, Mich.

Advance Registration Saves You Time and Trouble

No waiting to register . . . your Conference and hotel registrations will be made in advance . . . card, badge, program and room key ready when you arrive—pay $10 Conference fee and go directly to your room or to first meeting.

18th Annual **CONFERENCE** *and Exposition*
National **INDUSTRIAL ADVERTISERS** *Association*
SEPT. 18, 19, 20 . . . DETROIT . . . HOTEL STATLER

ASHWORTH PIONEERS IN CARD CLOTHING

AN INVENTION WHICH HAS

Saved

THOUSANDS OF HOURS

IN CARD STRIPPING TIME

Since the grinding of card clothing points, on the sides, lengthens the time between stripping periods, the value of this operation is generally recognized. However, do you know that Ashworth invented and uses a special type of side grinding machine which definitely assures the tapering of EVERY point, on BOTH sides, whereas other types of side grinders leave much to chance? This Ashworth invention has saved the textile industry thousands of hours in stripping time.

Many other ways in which this company has pioneered, and is pioneering, to reduce carding costs and improve carding performance will be explained on request.

ASHWORTH BROS., INC., Woolen Div., AMERICAN CARD CLOTHING CO.

3 FACTORIES — Fall River, Worcester, Philadelphia

6 REPAIR SHOPS — Fall River, Philadelphia, Charlotte, Greenville, Atlanta, Dallas

7 DISTRIBUTING POINTS — Fall River, Worcester, Philadelphia, Charlotte, Greenville, Atlanta, Dallas

★PRODUCTS AND SERVICES: Card Clothing for Cotton, Wool, Worsted, Silk and Asbestos Cards and for All Types of Napping Machinery • • Brusher Clothing and Card Clothing for Special Purposes • • Lickerin Wire and Garnet Wire • • Sole Distributors for Platt's Metallic Wire • • Lickerins and Top Flats Re-clothed at All Plants.

★ Southwestern Representative: Textile Supply Co., Dallas, Texas

THE *clear, exquisite brilliance of the* RHOPLEX *crystal ball points to unparalleled opportunities for the textile finisher. When applied to fabrics, this same* RHOPLEX RESIN *brings out the natural beauty of the cloth and enhances the richness of the colors.* ¶*Give new life to your fabric with the crystalline brilliance of a* RHOPLEX RESIN.

RHOPLEX
RESIN

RÖHM & HAAS COMPANY, INC.
222 West Washington Square Philadelphia, Penna.

AUG 19 1940

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COTTON
SERVING THE
Textile Industries

AUGUST, 1940
Vol. 104 No. 8

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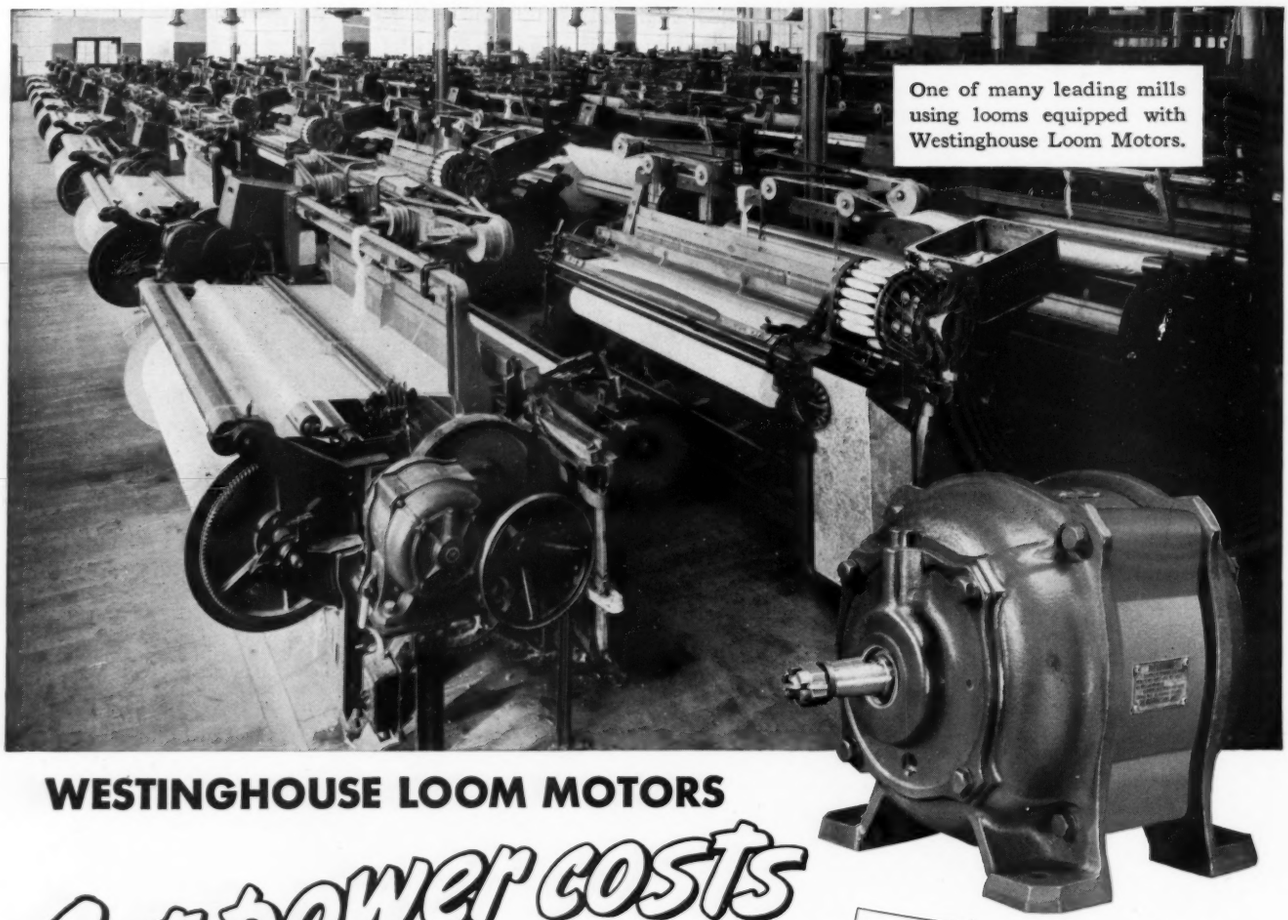
ABC ABP



One of many leading mills using looms equipped with Westinghouse Loom Motors.

WESTINGHOUSE LOOM MOTORS

Cut power costs

ON MODERN HIGH-SPEED LOOM LOADS!

The real measure of what a motor means in yards of cloth produced per kilowatt-hour, is told in its performance under actual loom load. This load varies widely with every pick, from an extreme point at which the motor is acting as a generator, to over twice its full load as a motor.

Westinghouse Loom Motor efficiency is maintained at a high point throughout the entire pick cycle with the result that kilowatt-hours consumed are reduced. Investigate what today's Westinghouse Loom Motors can offer you in possible savings as well as in over-all improved loom drive performance. See your Westinghouse representative or write Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., Dept. 7-N.

SPECIALLY DESIGNED to take peak loads with less power.

•

AMPLE RESERVE CAPACITY for "breaking-in" period.

•

UNIT FRAME CONSTRUCTION and vibration-proof fittings. Saves maintenance.

•

LONGER LIFE—extra ruggedness adds years to life of motor.

•

Specify Westinghouse motors for your looms and be sure of getting all these features.

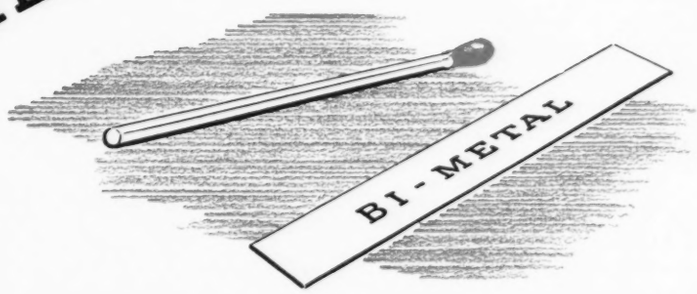
J-90425

Westinghouse

LOOM MOTORS

W WESTINGHOUSE ELECTRIC

HERE'S ALL YOU NEED



TO PROVE TO YOURSELF THE

UNFAILING ACCURACY

OF BI-METAL PROTECTION

Hold a lighted match next to a strip of Bi-Metal and watch how quickly the Bi-Metal bends. Try it again and again—each time the Bi-Metal will instantly respond to the heat.

Just as Bi-Metal bends responding to the heat of the match —so the Bi-Metal relay in the "De-ion" Loom Switch reacts to overload currents and disconnects the motor from the line *before* the motor windings are damaged. Bi-Metal's action is unfailingly accurate—fixed by exact calibration at the factory —unchanged by years of repeated operation.

To restore service is simplicity itself—just move the toggle switch to "reset", then to "on". There's nothing to renew or replace. A Loom Switch with Bi-Metal protection saves time, trouble and money.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
EAST PITTSBURGH, PA.

WESTINGHOUSE "DE-ION" LOOM SWITCH—a manual starter for motors up to 7½ hp. "De-ion" arc quenchers prolong contact life. Safety interlock prevents contact with live parts. Compact design and adequate knockouts make installation easy.

J-21092-A

ASK YOUR WESTINGHOUSE REPRESENTATIVE FOR THIS BI-METAL DEMONSTRATION

A book of matches, a Bi-Metal strip, and a complete explanation of Bi-Metal protection, with diagrams, are all contained in this vest-pocket-size envelope. Ask your Westinghouse representative for this demonstration.

Westinghouse

"DE-ION" LOOM SWITCH

WESTINGHOUSE ELECTRIC

FOR GOVERNMENT CONTRACTS...

YOU WILL NEED

OUR

CHROME FAST COLORS

THAT MEET ALL SPECIFICATIONS

FOR

U. S. ARMY & MARINE CORPS

FAST COLORS O. D. FOR COTTON *all classes of goods*

INDIGO PASTE & POWDER FOR **U. S. NAVY UNIFORMS**

CIBA COMPANY, INC.

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Sole Representatives of SOCIETY OF CHEMICAL INDUSTRY IN BASLE

Vat Dyes of THE DOW CHEMICAL COMPANY

SHORTS AND REMNANTS

Double Your Money Back If You Aren't Satisfied

"All wool and a yard wide" in days past came to be a term generally applied to almost any product that gave satisfactory service and measured up to all it was cracked up to be. In recent years certain labels such as "Approved by the American Medical Association" or "The Good Housekeeping Seal of Approval" have pointed out to buyers the worth of certain products. This use of such approvals in intimating that products not having such a rating might be inacceptable or even dangerous may have cheapened the approvals themselves.

However, whether it is American Medical Association, Good Housekeeping, Consumer Research, or some such organization turning on the microscope, it is true that a large number of well known products go through some independent testing and measurements. Laboratory research and testing play a regular part in the work of many manufacturers. Textile mills themselves do a good deal of testing work and are constantly expanding this work. Other tests from wholesalers, retailers or organizations are such that the public is pretty well protected as to the quality of goods it purchases.

On top of all of this, "Your money back if you aren't entirely satisfied" became a familiar slogan until "Double your money back" came in and we read one the other day that raised the ante to "Triple your money back". We wonder what would happen to this "Triple" fellow if any great number of people would suddenly wake up to the swell chance of making a little money by just returning the purchase as unsatisfactory and claiming their reward.

COTTON, Serving the Textile Industries, doesn't have any testing laboratory nor seal of approval as such. The nature of machinery and equipment offered to the textile industry doesn't allow for many conclusive tests. Just thinking of it we are reminded of the argument between two card clothing salesmen who were contesting claims of 20 and 25 years service and who finally ended up by agreeing that both of them would probably be dead and buried or on Social Security before they could prove either of their claims.

No, we haven't any laboratory tests nor any seal of approval nor do many of our advertisers say "Double your money back". BUT, in the last 15 years to our memory, we don't recall any "gyp" advertising in COTTON and few products appearing in our pages have not been well proved in actual service in the mills before appearing in the advertising.

There are two reasons for this. It costs money to advertise, and few companies are going to spend this money to promote sales on a product or service which hasn't been proved out. Further, an advertised product is exposed to the attention of the textile mill buyers and the advertiser knows an unsatisfactory product or a wild claim won't get by.

You may not get "double your money back" from COTTON'S advertisers but you can be pretty sure of satisfactory products and services from the companies using space in our pages. Look over the advertisements and you will see that it is the leading companies in almost every field who are bidding for your business through COTTON.

Spun Rayon

"Please send me the booklet referred to (Spun Rayon)."

S. REED ANTHONY
The Spool Cotton Co.,
New York, N. Y.

"Will you please send me the booklet on the history of Spun Rayon on page 48 COTTON, June issue."

B. W. BINGHAM
Brookside Mills,
Knoxville, Tenn.

(We mentioned on one of our advertising pages that we had a promotional booklet on Spun Rayon, which was supposed to go to advertisers and prospects. Letters such as the above exhausted this issue but readers desiring information on Spun Rayon will delight in the Symposium on this subject in July issue. First request for extra copies on this number comes from William J. Kelly, Jr., Sales Mgr., Burkart-Schier Chemical Co., Chattanooga, Tenn.)

◆

New Weave Room

"I thought the arrangement of the story (Drayton Mills weave room) in COTTON was very good indeed and the pictures also were quite good."

J. T. WARDLAW
Treas. Drayton Mills,
Spartanburg, S. C.

◆

Reprints for Bulletin Board

"We would appreciate enough reprints (Modernization at Piedmont) page 64, June COTTON, for our ten bulletin boards."

HERSCHEL HARRIS
Supt. Standard-Coosa-Thatcher Co.,
Piedmont, Ala.

Long-Draft & Tape-Drive

"All of us here are very much pleased indeed with the excellent work you have done in this connection."

W. F. LOWELL
V.-P. Saco-Lowell Shops,
Boston, Mass.

"These are very significant figures, are very important figures to us, and I think that they would be of great interest to the industry as a whole. It is the first time we have had anything at all definite as to the extent of modernization in our cotton mills."

E. KENT SWIFT
Pres. Whitin Machine Works,
Whitinsville, Mass.

"I certainly wish to congratulate you on the scoop that COTTON scored in compiling and printing the survey of long-draft tape-drive spinning—the information you have put together is not obtainable elsewhere and I believe the first of its kind."

PAUL B. HALSTEAD
Sec.-Treas. The Cotton Textile Institute, Inc.,
New York, N. Y.

(The above letters refer to the thorough study of long-draft and tape-drive spinning as installed in cotton mills throughout all of the country except New England which was presented in the June issue of COTTON.)

"Finishing Materials"

"With reference to the book, 'Finishing Materials' by J. Andrew Clark, I would appreciate your advising me again what we must do to receive this book."

P. N. COLLIER
V.-P. Callaway Mills,
LaGrange, Ga.

"Mr. Hayes has borrowed my special autographed copy of 'Finishing Materials' and it looks as though the only way I can get it back is to get him a copy."

R. E. RUPP
Pacific Mills,
Lyman, S. C.

("Finishing Materials" is still going strong and is available in connection with new or renewal subscriptions to COTTON.)

◆

Full-Fashioned Data

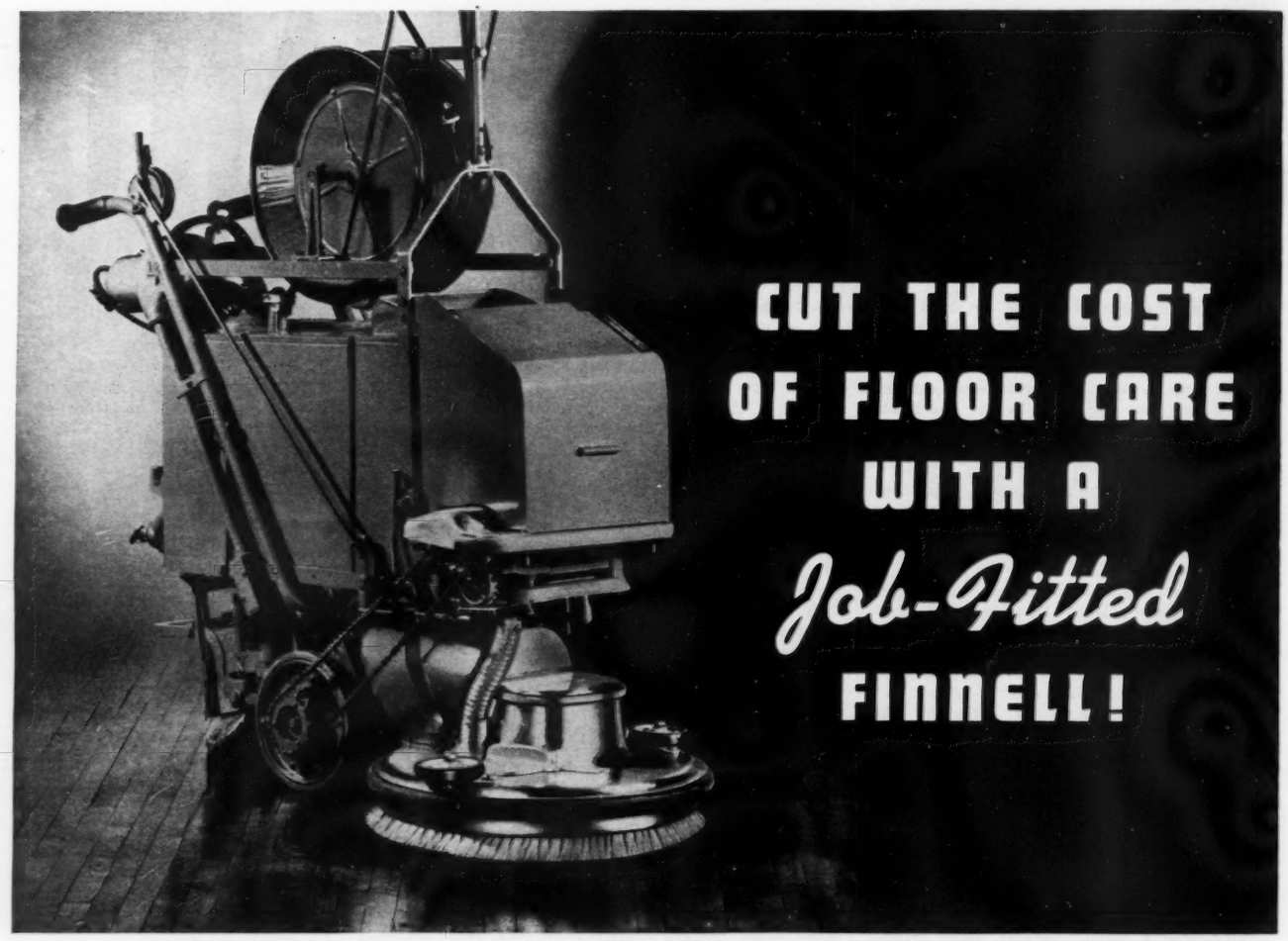
"If you can tell me where I can get a book giving full information about cam motion and the full details about full-fashion machines—if you have a book of this kind please mail me one and I will pay for the same."

JOHN FILOCHECK
Leesburg Hosiery Mills,
Leesburg, New Jersey.

("Full-Fashioned Knitting Practices" is the most popular book we have ever had on this subject. Available in connection with subscriptions to COTTON.)

Meet "Cotton's" Staff (No. 7)

W. J. Rooke, president of the W. R. C. Smith Publishing Co., who heads up all five of the Smith business papers. Originally a Yankee and now a full-fledged Rebel, he came with the company in 1913 as business manager of "Cotton", was an officer two years during World War 1, training men for field artillery, later business manager of "Southern Hardware", and then back on "Cotton". Was publishing director of "Southern Automotive Journal" from time of its inception in 1921 until 1937, when he was elected president of company, having previously taken on successively a vice-presidency and later the executive vice-presidency. Is now vice-president of Associated Business Papers, Inc.



The place to save money on floor care is with your equipment. Does it really fit your job? Or, have you over-invested, or perhaps under-invested in the equipment you are using? Either way, it's costly.

With a range of 49 different sizes and models, *Finnell* is equipped to help you choose a money-saving installation . . . *equipment that fits your specific needs* . . . correct in size as well as type. The size is highly important. Whether you buy or lease equipment for floor care, be sure to choose the size that will give you the greatest brush coverage consistent with the area and arrangement of the floors to be maintained.

As an example of the need for different sizes, take the 400 Series Finnell,—one of several *Combination Scrubbers* that scrub, rinse, and dry the floor. That particular model is furnished in four different sizes—each with a different brush area—to meet varied needs. And each does the job considerably faster than the next smaller size.

Illustration shows a *Combination Finnell* designed especially for use in congested areas, such as narrow spinning machine lanes and weave room alleys.

A *Finnell* floor survey will show exactly how much a *Job-Fitted Finnell* will save you. No obligation. Phone nearest *Finnell* branch, or write Finnell System, Inc., 1308 East Street, Elkhart, Indiana.

FINNELL SYSTEM, Inc.

Pioneers and Specialists in FLOOR MAINTENANCE EQUIPMENT

COTTON
SERVING THE
Textile Industries

Vol. 104 August 1940 No. 8

Our Destiny is at Stake

AS THIS is being written, Germany is master of Europe and is assembling all of its resources for an attack on England that will loose the fury and terrors of modern warfare on a small and thickly settled community which has been the dominant political and commercial force in the world for several hundred years. By the time this is read we may know whether England has succumbed to this onslaught or is showing signs of ability to weather the storm. It is a gloomy outlook, rendered more gloomy by the events that made it possible.

And those events are so closely kin to what has been going on in this country that we can see in them an indication of our own fate if we do not profit by the mistakes of France and of England. Both of those nations showed an incredible sluggishness in preparing for a situation that it was perfectly obvious must arise. German preparations for war were no secret, nor were German aspirations for domination of the whole of Europe or the whole world if they could get away with it. Yet at the beginning of Germany's present rise, when France felt it expedient to nip the German rearmament program in the bud, the English Government, comfortably safe in its insular security, was not willing to support the French in a move to crush Germany, and France itself was not sufficiently united to take this step toward self-preservation and keep its big neighbor harmless while it could.

Through the strict censorship, unbelievable stories of incapacity, disaffection and treason are filtering out of France: Stories of how one whole army ran away; another surrendered after hardly striking a blow, and the main army retreated practically in a rout before an attack which had been foreseen for several years, and for which apparently little preparation had been made. England, it seems, has only seriously gone to work on her war machine within the past six months.

To us, as observers and second guessers on this side of the Atlantic, it seems incredible that nations in such imminent peril could be so indifferent and complacent about their peril. Yet have we not adopted practically the same attitude? Are we not in for practically the same dose of trouble if we continue to hold to our present political course? While we criticize the obtuseness of French and British statesmen in failing to prepare for an attack they knew would come, what have we to say about our own complacency with respect to possible enemies of the United States? While we might reasonably have felt that taking care of Germany was the job of France and England, it has been common knowledge in this country that the Japanese have some very ambitious plans for taking over the East and dominating it as Germany proposed to dominate Europe. These plans are bound to bring us into conflict with Japan sooner or later or to force us out of the picture as a world power. Yet the American people as a whole are blissfully ignorant of the plans of certain dominating elements in Japan and thoroughly indifferent to their possible effects on this country. Have we not substantially the same feeling toward Japanese military and naval developments and political aspirations as England had toward Germany? Now, in addition to the threat on our west, comes the possibility of a worse threat from the east, due to the present collapse of France and the possible collapse of England. Had we made reasonable preparations for the threat that we recognized, we would be better able to withstand this new one.

Had the United States pursued a policy of governmental economy and national thrift during the past years, there would have been excellent excuse for not spending money on military preparation, but since the United States has embarked on a program of magnificently squandering itself back into prosperity, it certainly seems pertinent to inquire why a greater proportion of our spending has not been directed at those things which are clearly the function of the Federal Government under our Constitution and according to our traditions. If it were expedient that money be squandered, could it not be squandered to just as great advantage on battleships, forts, airplanes and other necessary accessories of government as upon things like Passamaquoddy, the Florida canal, and numerous like projects which would seem to have little or no practical value. By dedicating the "foolish money" to national defense instead of foolishness, we could have armed the country to the point where we would feel safe instead of insecure.

Yet if havoc has been played with our national economy and probably with our national security,

are not we, the people, to blame for it? Have not the people of the United States got what most of them said they wanted? The big question now is are we going to keep on wanting folly and futility in our government; are we going to continue pleasantly to ignore unpleasant fact; are we going to get over the stupid illusion that we can live forever on credit, and finally adopt a realistic attitude about our government. The time has now come when passing laws and making appropriations won't work any longer. From now on, the money that we spend has got to be spent for something definite and tangible instead of just frittered away for the fun of spending it, or for the political benefits that will accrue to those who can claim the credit for having it spent.

We are now frightfully in debt, and we haven't got the things that we could have had if all that money had been spent prudently. Now, to our already stupendous debt, we must add countless more billions for defense. Can leadership dedicated to the proposition that you can get something for nothing; that you can live by sharing somebody else's wealth without creating any of your own; that you must work less in order to have more, and that everybody must have more whether it is there to have or not, be trusted to direct the destinies of the nation in an emergency where practical experience and common sense are needed, and where people must learn to face grim realities instead of listening to glittering promises that cannot be realized? We have lived in an atmosphere of impossible promises long enough, and we don't seem to be getting anywhere. We have just as many unemployed as we had ten years ago; maybe more. We have a national debt twice what it was ten years ago. Much has been made of the statistical fact that the United States income has gone up in dollars since 1932, but little is said about the fact that the dollar has depreciated. Maybe we are better off in some respects than we were, but if we were as much better off as we should be, we wouldn't have so many unemployed people in the country, and certainly wouldn't have so large a national debt.

From the standpoint of the average American citizen, we don't seem to have had much for our money, and it is a rather terrifying thought to reflect that we may get as little for the next 30 billions as we have for the last. Certainly the job ahead is not for amateurs or for flabby-minded theorists in the realm of "social justice" and "share the wealth" schemes. It is a job for trained realists who know how to produce the tangible things that are needed for modern armaments and to produce these things with the least delay, confusion and waste, and to coordinate the whole plan so that the factories and workmen who produce these military requisites can also be employed in ordinary industrial pursuits with the least dislocation possible.

Here at last is a job for business men instead of politicians; for practical men instead of theorists; for people who have proved they know how to do things instead of for those who simply claim that they know how things ought to be done. It is a splendid opportunity for business men to clamber out of the doghouse to which they have been consigned during the past years. Military preparedness today is not a matter of shotguns and fervent oratory; not a matter of merely mobilizing soldiers. It is a grim, earnest matter of industrial production, and there is no country in the world that can excel the United States in industrial production. There are no technicians any more intimately acquainted with the problems of production than those in this country. So, if we can rid ourselves of the boondogglers, theorists, and squanderers and buckle down to work with a single purpose of arming this country in a military sense and getting back on our feet industrially, we can protect ourselves as a military power and face the world as an industrial one.

There are tough days ahead of us no matter who wins this war. They will be tougher if Germany wins, but they will be tough anyway. A "borrow and squander" economy cannot stand up against a "work and produce" economy. We have tried one; Germany has tried the other. When this war is over, Germany is going to direct that policy of "work and produce" to the capturing of the world's markets. Germany on one side, Japan on the other—both desperately struggling to take our business away from us? It isn't a pretty picture. Lots of big things can happen in North and South America in the next few years. These things will determine our destiny.

The Institute's Cotton Promotion Program

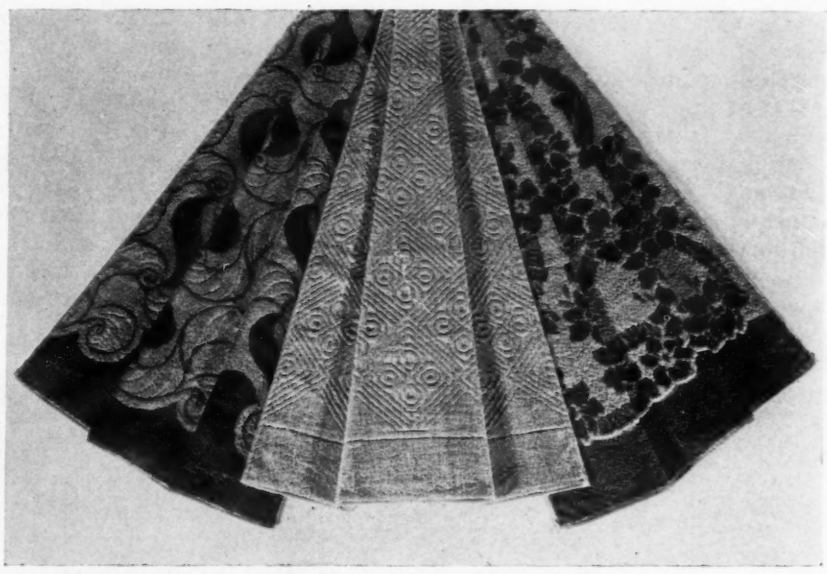
COTTON MILLS throughout the nation should unreservedly give their support to the program of cotton promotion now planned by The Cotton-Textile Institute. It is perfectly clear that the nationalistic aims of the four leading totalitarian nations will produce an irretrievable shrinkage in our exports of raw cotton, down to, the experts say, not over 2,000,000 bales. With a crop of 12,000,000 bales, and domestic consumption of about 7,000,000 bales, this would leave an annual surplus of around 3,000,000 bales, and it is equally clear that this surplus would be financed at the expense of the processors.

The objective of the new program of the Institute is to boost domestic consumption of cotton up to 10,000,000 bales, which would absorb the anticipated surplus. This would serve the two-fold purpose of removing this cotton from the sphere of political temptation and action and of providing greater activity among the mills in the industry.

On a tour throughout the entire manufacturing belt last month, Dr. Murchison, president of the Institute, and Mr. Mermey, a promotional expert now affiliated with the Institute, explained the new program to groups of mill executives in ten textile centers. It appears to be sound, and the most comprehensive and intelligent program yet proposed. It has the virtue of being integrated in all of its parts, without duplication of effort or lost motion. The proposed cost, to be borne by contributions from mills, is infinitesimal in relation to the possibilities, economically and politically, of the effort. It is the proposal of the Institute to meet a present crisis and to resist impending threats, and should receive every mill's full support.

Callaway Producing HIGH QUALITY TOWELS in Elm City Plant

CALLAWAY MILLS, LaGrange, Ga., have developed a new product—high quality terry towels—now in production in the company's Elm City plant, which has been converted to the new product in an interesting change of equipment and processing. The company, for more than 40 years an outstanding producer of industrial fabrics, has for many years made also leading lines of consumer products, notably chenille rugs and mats. Last year it added a line of draperies and shower curtains, and its current entrance into towel manufacture provides a further rounded-out line of household textiles. These products are being distributed to the retail trade throughout the country by the sales offices of the company. Present production of towels is approximately 10,000 dozen per week, in guaranteed fast colors.



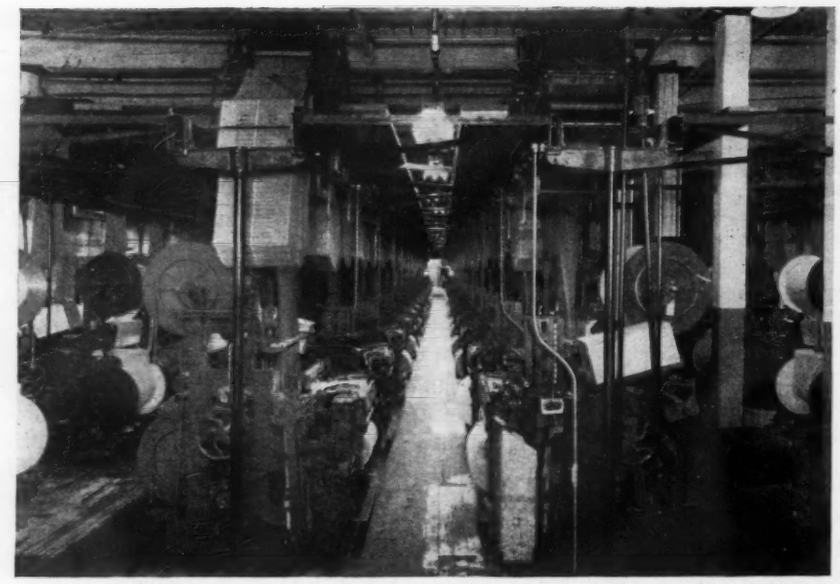
Some of the styles in the new Callaway line of high quality towels

The company operates 10 mills in Georgia, and the duck and other products formerly made at the Elm City plant have been transferred to other divisions of the company, so that there is no diminution in production of the company's established important lines; rather, its entry into towel manufacture is a broadening of its lines and a further step in the policy of intelligent, progressive diversification that has marked the organization's development since its inception in 1898. With the household products already in the company's line, the towels now provide a complete "matched ensemble" line for the bathroom, including mat, towels, face cloths and shower curtains. The towels are marketed under the "Callaway" name and trademark, with sales activities being supplemented by trade paper advertising, dealer display helps, etc.—and extensive consumer advertising planned for the near future.

The decision to produce towels was made after a thorough study of the market, which revealed opportunity for a line of especially high quality towels of exclusive design, construction and styling, rather than products for mass consumption. With sales and distributive facilities already available, the company engaged Samuel P. Parker, whose experience in quality towel manufacture and finishing covers more than 25 years; and he is in charge of manufacturing and finishing of the new product, having been with Callaway from the beginning of conversion of the Elm City plant from duck to towels.

The story of changing the equipment of the plant to the new product, including of course the selection and installation of the necessary new equipment, is an interesting one. Within recent years the plant had been completely electrified and modernized, with especial attention to buildings and auxiliary services, so that the changes made in the conversion were mainly those of processing equipment and methods.

Up through the spinning, with the equipment already modernized



An alley showing some of the 140 new C-3 Jacquard terry towel looms in the towel weaving department at Callaway Mills. The department also contains 72 C-3 dobby towel looms. Note fluorescent lighting, wide alleys, and large beam heads . . . . . .

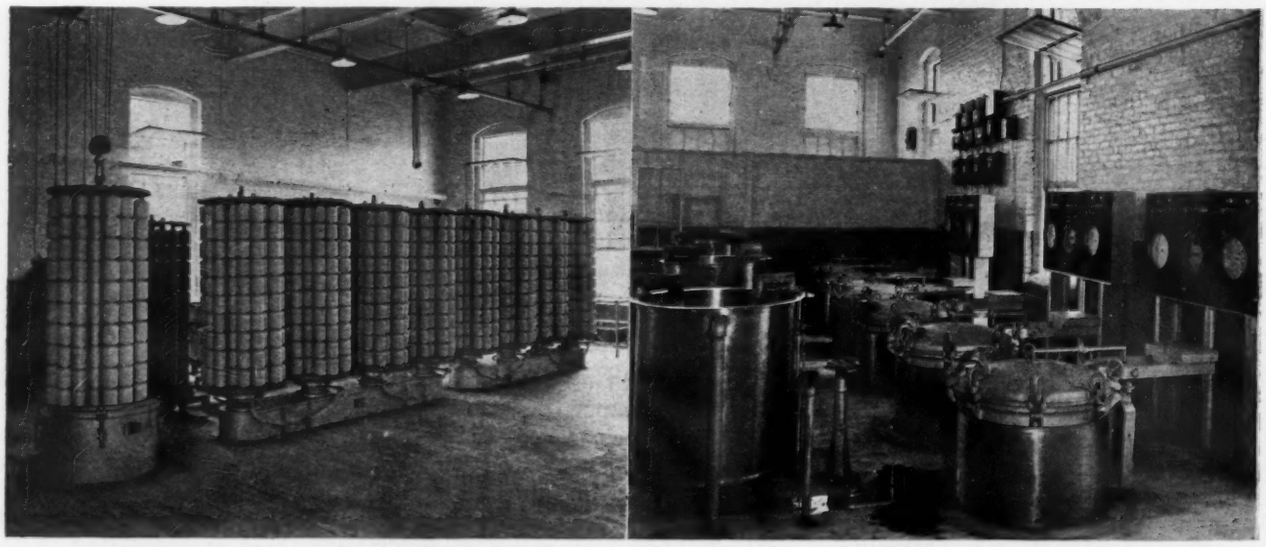
and balanced, only those changes necessary to convert the machinery to the finer, high quality yarns required for the new product were made. The necessary changes in warp and filling preparation were made, and from the weaving on, every piece of equipment is new and of the latest design for high quality towel production. As stated, the company's duck production formerly made at Elm City plant was transferred to other plants in the organization, and with it went the Elm City equipment not utilized in the new arrangement.

In the yarn department, the 4½- and 5½-inch twisters for duck were replaced with 10 2½-inch twisters to make the two-ply yarn used in the ground warp of terry toweling. Five 70-spindle No. 102 Foster winders were installed to produce cones for magazine creel warping, yarn on dye-tubes, and on paper tubes for quilling. There is one 464-end Saco-Lowell magazine cone creel warper for making section beams; two slashers; and one 1,200-end Cocker high speed warper for loom beams. Eight 20-spindle Universal No. 90 winders are used for making filling quills and other packages.

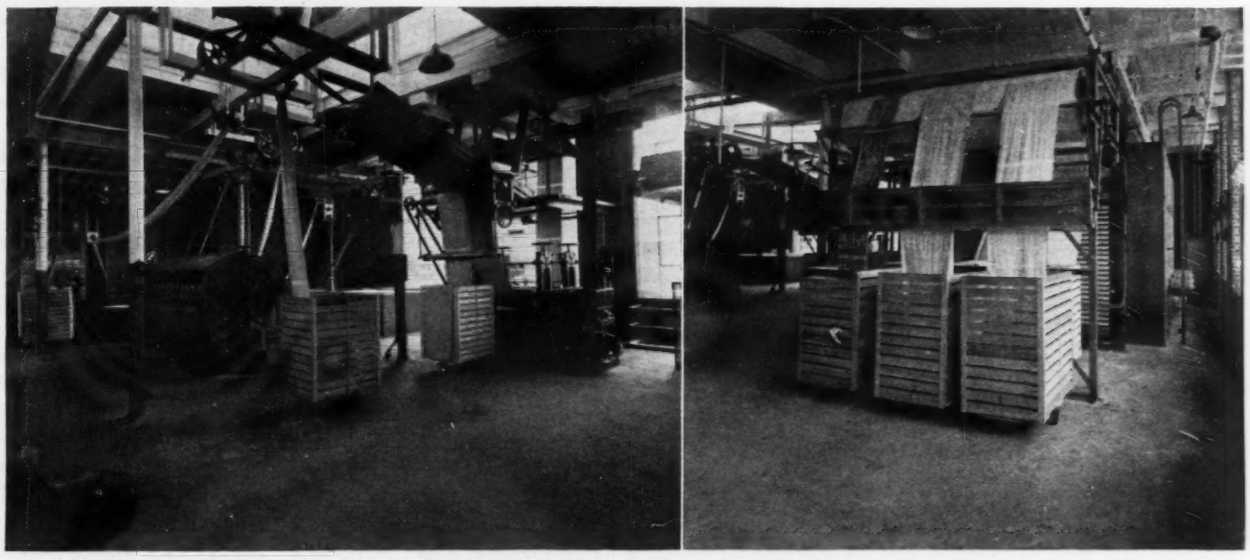
The New Towel Looms

The three final stages of manufacture—the weaving, the yarn dyeing, and the finishing and sewing departments—are considered to be in every respect of the latest available design and equipment for towel production. The weave room contains 212 looms, all of the latest Crompton & Knowles design. There are 140 C. & K. C-3 terry towel looms, 38-inch width between swords, with 624-hook double cylinder, double lift, French index Jacquards; 12 C-3 terry towel looms with 16-harness, double cylinder dobbies; and 60 C-3 looms — 30-inch between the swords—double cylinder, 20-harness dobbies, for huck and crash toweling. All of these looms are 4x1, and each is equipped with C. & K. electric warp stop motion, anti-friction bearings, and each is driven by an individual 1-hp General Electric loom motor, direct-connected, and mounted on three-point suspension. 24-inch head loom beams are used throughout.

The looms occupy the space in the original building formerly utilized for duck weaving, but the lighting has been modernized by the installation of 106 General Electric R F rectified fluorescent



At right, the dyeing-bleaching kiers (showing also control-recording instrument panels and expansion tanks) in the yarn package dyeing plant in the Callaway towel mill. Carriers are conveyed by overhead trolley from these kiers to the air extractor, seen at extreme left; then to hot air dryers also shown in photo at left . . . . . .



Two views in the finishing department of the Callaway towel mill. The left photo shows cloth leaving the kier, the slack washer, and the starch mangle. Right, the three-section loop dryer . . .

units. This new lighting is installed with one unit to each two looms. Lighting for the Jacquard looms is accomplished with one 100-watt unit mounted between each facing set of looms, lengthwise in the weavers' alley, three inches above the catwalk, providing ample illumination for this intricate weaving assignment. Auxiliary lighting in the back alleys of the Jacquard section is provided by incandescent fixtures. The dobby looms are served by fluorescent units mounted at the loom ends at right angles to the alleys, and provide adequate service throughout this section which, of course, does not have the superstructure of the Jacquard looms.

The Package Dyeing Department

The dyeing department, a compact, self-contained unit occupying a wing that was formerly the plant's engine room, and adjacent to the weaving department, is modern and efficient in every respect. It incorporates the latest design of equipment for dyeing, bleaching and drying yarns for towel manufacture, and reveals as well several contributions to textile machine design and operation by other leading industries. The equipment includes 6 package dyeing and bleaching kiers (3 units of 2 kiers each), each unit with an expansion tank; an air extractor; and two units (4 carriers each) of hot air dryers. All of the equipment in the dyeing department is fabricated of solid stainless steel, including all pipes, pumps and tanks.

Yarn is dyed, bleached and dried in package form on carriers of 300-pound capacity. Each of the kiers handles one of the carriers; the double-kier arrangement providing flexibility of processing and maintenance of shade. The yarn goes from the kiers to the hot air extractor for first drying, and then 4 carriers are placed on each of the two hot air dryers. A unit heater arrangement pre-heats, to the desired temperature, the air used in the hot air extractor, and the air for the hot air dryers is pre-heated to the same temperature. A unique application is the use of a Pangborn "Precipitron" on each of the hot air dryers. This device, a recently perfected development of the Westinghouse Electric & Manufacturing Company, precipitates electrically all dust, lint and other foreign particles in the air going to the yarn dryers, delivering it there completely free of foreign matter with obviously noticeable effects in the cleanliness and uniformity of the product. The use of stainless steel in the equipment of this department provides protection against corrosion as well as greater ease of cleaning between batches.

Every machine in the dyeing department is under precise and accurate automatic control, Bristol instruments designed especially for the system and integrated to it, being used. A Cleveland Tramrail overhead crane handles the yarn carriers between processes; a similar equipment being used also in handling the loom beams in the weaving department. Exhaust fans (2—48-inch Ilg with automatic shutters) in the ceiling penthouse of the dyehouse provide a complete air change in the department every 1¼ minutes.

In the dyehouse basement, all motors are 550 volt, 60 cycle, Reliance motors. The two motors on the dryers are 50-hp each, the one on the extractor is 30-hp., and the three motors on the dye machine pumps are 40 hp. each.

The entire equipment in the dyeing department was designed, manufactured and installed by the Gaston County Dyeing Machine Company.

The Finishing Department

A new, one-story and basement addition, 83x77 feet, was constructed, also connecting to the weave room, to house the finishing department, which, likewise, is new in every detail, with equipment designed and arranged especially for this installation. The equipment includes: pressure kier, slack washer, water mangle, Tommy Dodd backfilling machine; 20-can copper can dryer, 3-section loop dryer, 5-roll chasing calender, 30-foot tenter with electric guides, and sprinkling machine. The loop dryer was furnished by Proctor & Schwartz, Inc.; all of

A section of the modern sewing room in the Callaway towel mill, hemming over-edging and hemstitching machines at left; packaging department in background at right

the other equipment by The Textile Finishing Machinery Company.

Here again are found, in addition to major equipment of the latest type, modern equipment and methods as to auxiliary services for process regulation and control—everything designed for bleaching towel piece goods and finishing of colored goods for towels, with emphasis on quality product and efficient operation. The basement of the finishing department was especially designed to house all mixing tanks for chemicals used in this department, and for concentration of electric and other controls—making for neatness and more efficient arrangement in the department upstairs.

In the finishing department, the motors on the saturating machine, washer, water mangle, and calender, are Reliance gear case motors. Those on the dry cans and tenter frame are Reliance d.c. motors, each having a motor generator for converting the current from a.c. to d.c. The four motors on the Proctor & Schwartz loop dryer are Diehl, 550 volt, 60 cycle motors.

The Sewing Department

The sewing department is the final process in towel manufacture. It is located in the wing formerly utilized as the cloth room of the Elm City plant, adjacent to the new finishing department. It is equipped with 20 Willcox & Gibbs "Flatlock" hemming machines (4000 stitches per minute); 4 Merrow over-edging machines (4400 stitches per minute); 3 Singer labeling machines (2000 stitches per minute); and 1 Singer hemstitching machine. A Saxmayer bundle-tying machine on an overhead trolley serves the line of packaging tables.

Much careful attention was devoted to the design and selection of equipment for supplying and treating the water and steam necessary for processing that was not previously available or required at the plant. Two 150-hp. R. D. Cole horizontal return tubular boilers, with Combustion stokers, were installed, and Permutit zeolite water softening equipment is used. A 150,000-gallon Cole tank, for storage of treated water, was erected in the mill yard. An artesian well, of 99-g.p.m. capacity, serves as the water supply.

The well pump supplies the 5,000-gallon auxiliary tank. From this tank, the water is pumped through the softeners into the 150,000-gallon storage tank, for treated water, in the mill yard. When this tank is filled, the water supplied from the 5,000-gallon auxiliary tank is automatically cut off, and the water is switched to the storage service tank until this tank is filled, then when both the 150,000-gallon tank and the storage service tank are filled, the 5,000-gallon auxiliary tank is filled, and the deep well pump automatically knocks off until water is needed in either of the storage tanks. When either of these tanks needs water, it is pumped automatically from the auxiliary tank to that tank, and automatically cuts off when the tank is filled.

J. E. Sirrine & Company, Greenville, S. C., were the engineers on the project. Its design and installation were under the direct supervision of C. D. Blackwelder, of the Sirrine organization, and the engineering department of Callaway Mills.

Workers' Pet Peeves

"And, by jingoes, the first thing I know, the boss has put my idea to work that he told me six weeks ago was no good," a workman was telling a friend. "When I made the suggestion, he gave me to understand that I was there to do my job and not to think up a lot of fancy ideas that wouldn't work. Then, when he thinks I have forgotten about it, he turns around and puts it to work and takes all the credit for having thought up a smart idea.

"You can bet your shirt it's the last idea I'll ever pass on to him. I didn't expect he was going to have the company hand me a bag of dough for the idea, but the least he could have done would be to give me a little credit for having an idea that was worth something. Anyhow, it shows me how far I can trust him. In the future I'll do my job, but I'm not going to lay awake nights trying to think of any ideas that will help him make a better showing."—"*Management Information*", *Elliott Service Co., Inc.*

What Do We Mean When We Talk About A Program of Public Relations?

By Dunhill Marsden

IN THINKING of a public relations policy for the textile industry, there are several factors that must be definitely outlined.

First, we must define what we have in our industry that we would like for the public to know and believe. Also, we must decide upon a definition for the term "public," i. e., in what public we are interested.

In the next place we must decide, or try to ascertain what this public knows and/or believes about our industry, how much of its knowledge or belief is true and of mutual advantage and how much is untrue.

The third and final step is the means or methods we may use to accomplish our purpose most effectively and most economically.

If this general outline is true, then some amplification or explanations are necessary. The expression "public relations program" indicates that there must be a public with which we would like to have good will and cooperative relations. This thought promotes another suggestion which stated by the question, "Why do we desire to have good will and cooperative relationship with this public?"

Perhaps these questions should be covered before advancing with the discussion into the other two.

By the public, we are inclined to think that we want the good will and cooperation of all of those people, or groups, who influence or mould public opinion—the church, the civic leader, the politician, the press, the radio. Why we want the good will and cooperation of this public can partially be answered in four fundamental objectives: (1) To insure safety for the industry from burdensome legislation;

(2) To secure approval of our industrial relations policies;

(3) To increase the use and sales of the products of the industry;

And (4), finally, for the personal satisfaction of the industry that it is a social and economic unit that measures up to the expectations of the public.

If the first three of these objectives are met, there is but little doubt about the immediate good will and cooperative acceptance of the industry by the public.

Even the third objective is not of such vital interest to the manufacturer in this specific program, because through advertisements and various practical and established channels, he has avenues of distribution and means of meeting competition with which he is familiar.

This discussion of public relations, then, through the process of elimination, narrows itself down to the objectives; (1) of insuring safety for the industry from burdensome legislation; and (2) of securing approval of its industrial relations policies.

• There is much talk—loose and otherwise—about a "public relations program" for industry. Most people discuss it too superficially, we fear, without considering what a public relations program really is and what its purposes are.

Here is a thoughtful analysis, by a competent observer in our industry who gives his views on what such a program should seek to achieve; and the essential part our internal industrial relations program plays in the welfare of a public relations program . . . . . .

We shall discuss the second objective first because the lack of approval by the public of an industrial relations program has expressed itself in several legislative acts, among which are the Walsh-Healey Act, the Fair Labor Standards Act, the National Labor Relations Act, the Social Security Act and others.

It may be advisable to digress here and record that there are many units in every industry that have public approval and public support already in all of the four objectives outlined. Laws and regulations are not made to control the ethical and well-regulated industries, although these industries may suffer inconveniences and discomforts by their enactment. Laws and regulations are made to control and regulate industries that are ignorant or wilfully indifferent to public expectations and demands.

It is my honest opinion that none of the laws mentioned would have been enacted if industry as a whole had properly sensed its social and industrial responsibility and had discharged it. Too many units did not, and manifested too much selfishness—too much unenlightened selfishness—and in the narrow and restricted application of their industrial programs, the public conscience became aroused and legislation was the result.

When Herbert Hoover was President of the United States and much regulatory legislation was beginning to appear in Congress, he stated publicly that the national government has never voluntarily imposed any regulatory process or law upon any class or group of the nation. It has always been done at the insistence of a class, group or the nation itself, because the public was impotent in its social or economic control.

In thinking of social legislation, not all people must think that they are the objects of its intent. There is no doubt that social legislation would have moved faster if the public had not approved of the social ideals of many industrial leaders and had not waited, hoping for these ideals to meet with general voluntary acceptance. Since they were not voluntarily accepted, legislation was necessary.

The wage-and-hour law was intended to put a floor under wages

and a ceiling over hours. This was the primary intent of the law. In its enactment and enforcement there have been so many literalists or evaders and so few spiritualists or cooperators, that regulations have had to be more rigid and specific.

The attitude of some units of industry toward the laws mentioned has not met with public approval. There have developed, in too many instances, class hatreds and community criticisms and public disapproval.

The fact that the public permitted these laws to be passed is an indication that they expect them to be observed and obeyed within reason.

Support Must Be Merited

A public relations program that can go before the public without the ability to say that its edict has been reasonably observed by industry, cannot expect public approval and public support.

Someone in outlining our controls divided them into three groups: (1) those of inalienable rights, (2) the control of manners or customs, i. e., public approbation; (3) the control of positive law. All of these controls can change in ideals and extent. The realm of inalienable rights is being seriously questioned. The realm of positive law is being constantly increased and this means that the realm of manners or customs is being lessened steadily, because in the realm of manners, or the field of public approval, society and industry failed to meet with public approval, hence the realm of positive law has extended its domain.

This presentation of this subject may be seriously questioned by some, but the fact that the realm of positive law constantly increases and the realm of manners or individual choice constantly decreases can not be denied.

Therefore, in going before the public with a program of education for approval, we must prove to them conclusively that we are capable of conduct in the realm of manners and that our industrial relations program is saturated with sense and social intelligence, or there will be other legislation.

This means two additional facts must be noted. The first is that the public itself has certain ideas and ideals as to what an industrial relations program should be. So has the average industrialist. There are, likely, truth and error on the part of both. Both may need education and both may need to make the compromises necessary for mutual understanding and acceptance.

I have often said that if democracy is saved in this nation, industry's contribution to its salvation will be through an intelligent industrial relations program. In making this statement, I am in no sense referring to unionization, collective bargaining, or any of those formal devices which too many people feel are panaceas. The industrial relations program that I have in mind is over and above any such relationships which these means can effectuate. A sane and intelligent program of industrial relations, based upon human relationships and intelligence, will make any such formal device unnecessary.

What I have been trying to convey so far is that any effective public relations program must be predicated and founded upon a sane and acceptable industrial relations program. When such an *industrial* relations program has been established, the *public* relations program will largely take care of itself.

No industrialist or public relations expert can overcome the power and influence of a group of workers in a plant in which there are abiding unsatisfactory industrial relations. This statement has two sides to it. It must be satisfactory to management and it must be satisfactory to labor. It must be constructed upon facts and fairness by both parties and not on opinion or theory.

If this Utopia of idealism could be established in the textile industry, there would be at least 400,000 people daily telling the world, i. e., the public, about our wonderful industry, and then the public would believe. The public will not believe it until the workers impress upon them with the story. If the industrialists and the public relations engineer tell a story backed up by the worker, the problem is easily solved. If the industrialist and the public relations engineer tell a story different from that of the average worker, the public will believe the worker.

Industry had its beginning largely with the profit motive. It was small and divergent and its influence was not so great upon society. Today industry is large and controls the destiny of millions of people. We would not deny to industry today the profit motive, nor many of those characteristics that it holds dear, but we must add to its duties a very impelling social responsibility. This is the yardstick by which the public measures industry. Industry is approved or disapproved by this standard.

Preventing Burdensome Taxation

We now come to the first objective of industry which we mentioned earlier as one of the objectives which industry hopes to attain through a public relations program—that of insuring safety for itself from burdensome legislation. As we have already seen, this objective is closely related to the preceding one. Burdensome legislation resulted from lack of a proper industrial relations program on the part of too many industrialists.

The next type of burdensome legislation results from taxation in its manifold applications to income, capital stock, materials, payrolls, etc.

In the state and national legislative bodies, there appear social and economic needs—either in fact, or imaginary—that must be met. The various economic units of society are so disconnected and competitive that they create these needs or economic deserts. The stress and strain of competitive rivalry cause men to forget their social responsibility, hence the lapses—the unemployed, the dependents, the delinquents. What happens to be everyone's business is no one's business, therefore, the state or national government must step into the picture and care for these social and economic errors. It requires money to care for them; there is no other source of revenue except the economic units of our nation and taxes are the direct results.

Those groups or classes of society that seem the most prosperous, the most ruthless, the most unsocial, the most impersonal, are generally the places most inviting and

most seriously afflicted with the tax burden. The ever-present conflict between agriculture and industry, whether real or imaginary, results in industry's being taxed unduly for the benefit of the farmer. The too frequent misunderstanding by the public of the economic relationship between industry and its workers causes the public to impose taxes and insurance of many kinds upon industry for the benefit of labor.

I can almost read in the mind of some who read this article that such a discussion is senseless and impossible; that industry must use force to combat the forces that are brought against it; that other segments and groups of society are no more social-minded than industry, and finally if industry does not resist with all of its power it will be destroyed. These thoughts are all true, with the one proviso that industry must not always assume and maintain a negative attitude. In most legislation, there are elements of intelligence and justice. There are certain duties and obligations that must fall upon industry along with other economic segments.

Industry must be reasonable and sanely endeavor to find out what these duties and obligations are and discharge them in a big social way. Beyond this responsibility they should resist strongly and they will be joined by public approval in their defense.

We have tried to define our public—we have tried to find out the major objectives that we want to sell to our public and finally, through indirection, we have indicated the way that we can conduct an effective public relations program—in a brief sentence: we must adopt policies within our organizations that meet with public approval and then our own workers and the public itself will willingly accept them.

We can not sell something that does not exist, and we cannot keep the public sold on a program that is inconsistent with the facts.

If conditions for accomplishing the objectives of our public relations program really exist and are everything that we say they are, we cannot keep the world from finding out these facts. If conditions for accomplishing the objectives of our public relations program do not really exist and are not everything that we say they are, we cannot convince the world of the sincerity of our statements.

◆◆◆

Apprentice Training by Terrell Machine Company

More than three months ago The Terrell Machine Company, Charlotte, N. C., began a systematic training of apprentice machinists. A small but well-equipped shop was set apart for this purpose, under the supervision of a foreman who is not only a skilled mechanic but who also has had experience in instructing others in the use of hand and machine tools.

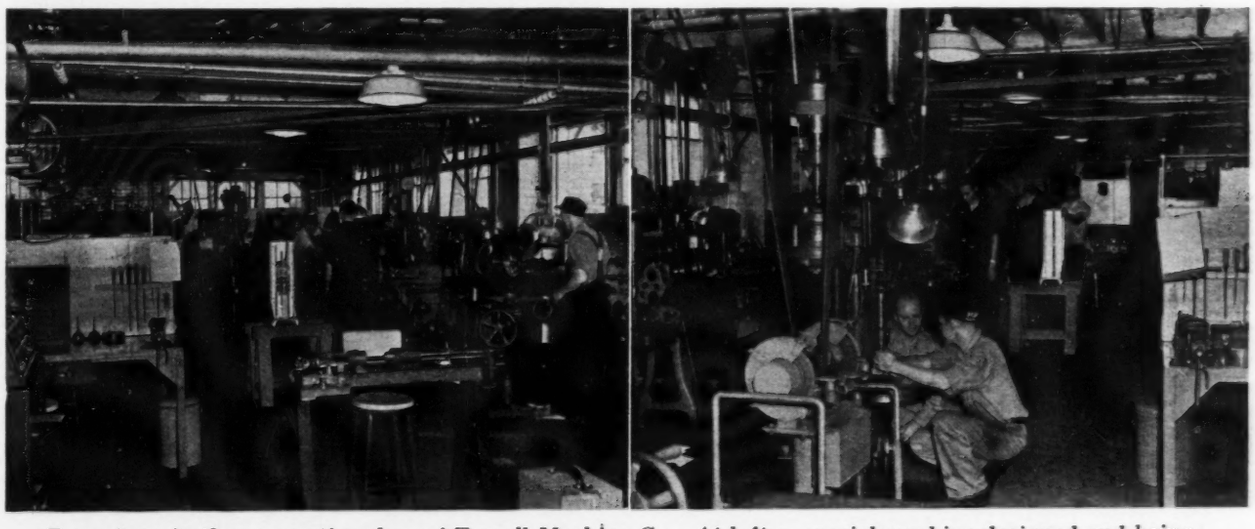
In addition, the course includes classes in sketching and blue-print reading, shop mathematics, mechanism, the operation of machine tools, and English. These subjects are taught by correspondence and are supplemented by company engineers who are experienced in both the practice and theory of machine design.

The shop is now being operated 42 hours a week. The apprentices are paid for full time although three hours a week are devoted to study and this probably will be increased to four hours in the near future.

The first three months constitute a trial period to determine the aptitude and willingness of each apprentice. Casualties have been few, only two apprentices from the first lot of eight having failed to make the grade. The requirements for admission are four years of high school or its equivalent, ability to pass the required physical examination, acceptance of the applicant after interview by the apprentice committee, satisfactory references as to character and willingness to work, and a maximum age limit of 21 years.

The number of apprentices is necessarily limited by the small size of the shop. At present the company has applications on file for more than three times the number which can be accommodated, although no particular publicity was given to the inauguration of the plan. The apprentices will be graded on their work in all subjects and, at the end of each period of six months, will have their wage rates adjusted according to individual progress.

The company is well pleased with the results already secured. It is in the midst of a comprehensive program of new machine development, more than 50 machines having been designed during the past three years, and believes this training program will provide it with the skilled men it needs for its future growth.



Two views in the apprentice shop of Terrell Machine Co. At left, a special machine designed and being completed in the shop is seen in the foreground; at right, a student with the instructor, Good Richard, who is a skilled tool and die maker

Card Room Inspection Forms

By E. H. Helliwell

THE IMPORTANCE of periodical systematical machinery inspection should be realized by every mill man in every department of the mill.

A few extracts from an article by Fuller E. Callaway, Jr. (COTTON Feb. 1936) succinctly express this importance: "The difference between maintenance and repairs is similar to the difference between a man who has a bath every day to *keep* clean and a man who takes a bath once a week to *get* clean. A necessary ally to maintenance is inspection. By inspection we mean not merely giving a casual, occasional look at some of the equipment or buildings but following a regular predetermined schedule."

The word "survey" is intentionally omitted in this present article. Survey is an expensive word when applied to the simple process of determining and recording the condition of operating machinery.

A few years ago, when mill profits were more abundant, surveys were quite fashionable. A large New England mill paid thousands of dollars for one. It was a masterpiece of minute detail. The condition, life expectancy, and replacement cost of nearly every gear, stud and bearing was carefully ascertained and recorded. This critical survey and voluminous report never paid a cent dividend on the large sum expended for it. Actually the same draft gear studs were running six years after being condemned.

There are types of engineering reports that are very worthwhile, but when they are to be made and paid for, the author suggests that an experienced and reputable firm be secured.

The technical staff of a large group of mills, realizing the importance of systematical inspection, compiled a complete set of inspection sheets for every department in each plant. The divisions and subdivisions for weekly, monthly, trimonthly, semi-annual and annual inspections proved too complicated and time consuming to be practical.

MACHINERY INSPECTION PLANT_____ DATE_____
PICKERS, CONDENSERS, CON.FANS, CONVEYORS. Insp. by_____

Machine No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CONDENSER															
Screen. Condition wire.															
Bearings & Shafting.															
Gears															
End Leathers.															
CONDENSER FANS.															
Bearings.															
Vibration.															
Blades.															
Leakage.															
CONVEYORS.															
Belt. Condition.															
Rollers.															
Bearings.															
Gearing.															
PICKERS.															
Feed Roll 1st Sect.															
Feed Apron " "															
Gearing " "															
Beater " "															
Grid Bars " "															
Cut-off Plate " "															
Dust Bars " "															
Cages " "															
Fan " "															
Feed Rolls 2nd "															
Gearing " "															
Beater " "															
Grid Bars. " "															
Cut-off Plate " "															
Dust Bars. " "															
Cages. " "															
Fan. " "															
Feed Rolls. Fin. "															
Gearing " "															
Beater " "															
Grid Bars " "															
Cut-off Plate " "															
Dust Bars " "															
Cages " "															
Fan. " "															
Evener Motion. " "															
Knock-off " " "															
Clutch. " "															
Calender Rolls " "															
Racks. " "															
Reserve Box. " "															

Every item must be checked. X-denotes repair or replacement required.
Use reverse side of this sheet for details.

MACHINERY INSPECTION PLANT_____ DATE_____
CARDS Insp. by._____

Machine No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Cylinder Clothing															
Doffer "															
Flat "															
Licker-in Wire.															
Feed Roll & Bearings.															
Lap " "															
Lap & Feed Roll Gears.															
Side Shaft Drive.															
Licker-in Knives.															
Cyl. & Licker Screens.															
Doffer Gear Drive.															
Cal. Roll Drive.															
Coiler Drive Gears.															
Flat Drive Gears & Worms.															
Cylinder Bearings															
Doffer "															
Licker-in"															
Doffer Comb															
Flat "															
Hackle "															
Flat Chains. Condition.															
" " Tension.															
Comb Boxes.															
Band Pulleys & Studs.															
Spiral Flat Brush.															
Small " Brushes.															
Flat Bowls & Rods.															
Flat Ends.															
Check Settings.															
Flats to Cyl.															
Dof. " "															
Licker" "															
Feed Plate to Licker.															
Cyl. & Licker Screens.															
Front & Back Plates.															
Cylinder Screen.															
Licker-in "															
Doffer Comb.															
Flat "															
Mote knives.															
Test for line & level.															

Use reverse side of this sheet for details.
Every item must be checked. X-denotes repair or replacement required.

MACHINERY INSPECTION PLANT_____ DATE_____

DRAWING FRAMES Insp. by_____

Breaker or Fin. Draw No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rolls. Condition Top*															
" " Bottom.															
" " Cal.															
Bearings. Steel Roll.															
" Roll Stands.															
" Top Roll.															
" " " Bushings.															
" Out F.R.															
" Cal. Roll.															
" Bottom Shaft.															
" Coiler "															
Gears. B. & M. Roll.															
" Draft.															
" Crown.															
" F. R.															
" Cal. Roll.															
" Coiler.															
" Table.															
" Spur bevel.															
" Tension train.															
Trumpets. Gauge.															
Studs. Mid. Rolls.															
" Draft.															
" Tension.															
" Cal. Roll.															
" Table drive.															
Stop Motion. Spoons*															
" " Knife bars.															
" " Lever bar.															
" " Spring.															
Test for level & line.															
" Can Table.															

Every item must be checked. X-denotes repair or replacement required.
Use reverse side of this sheet for details.

*Covered by weekly inspection.

MACHINERY INSPECTION PLANT_____ DATE_____

ROVING FRAMES Insp. by_____

Slub.Int.Fine Frame No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Jack shaft bearings.															
T & L pulley.															
H.E. gears & bearings															
Cone gears & bearings															
Compound gears & bearings															
Roll gearing & studs															
Twist gr. train & studs.															
Lifter train " "															
Long lifter sh. & bearings															
Lifter pinions & quad.															
Spin. Sh gears & bearings															
Bob " " "															
Bobbin gears															
Spindle gears															
Bolsters.															
Spin. steps															
" Slots															
Steel rolls Front															
" " Mid.															
" " Back.															
Twin gears & studs.															
Small bevel dr.twin gr.															
Builder nuts															
" Eccentric & Spring															
" dog															
Space gear															
Bobbin rail arms & slides															
Clearers.															
Flyers balance.Pressers															
" slots & pins															
Roll stands.															
Clutch.															
Rack & cone belt shipper.															
Top & bot. cone bearings.															
Cone belt start pt.															
Traverse motion.*															
Neb bars.															
Weight chains & sheaves															
Test level & line															
Roll stands															
Steel rolls															
Roller beam															
Bobbin rail.Full traverse															
Spindle steps															

Every item must be checked. X-denotes repair or replacement required.
Use reverse side of this sheet for details.

* Covered by weekly inspection.

These instances are cited, not to belittle the value of machinery inspection but as a warning to keep these inspections within reasonable practical limits. The secondhands or section men who are entrusted with the care of the machinery are thoroughly competent to make these inspections if they are supplied with proper forms and instructions. These men soon become ardent boosters for these inspections, when they realize the decreased number of breakdowns occurring and the fewer repairs required between inspection periods.

Scouring periods are the best times for general machinery inspections. At these times, every part is easily accessible for examination. Many short period inspections are necessary, such as daily examinations of tensions, traverses, evener motions, weekly inspections of belts, top rolls, drawing spoons and others. Semi-annual scouring is common practice in mills on two shift operation and this is frequent enough for general machinery inspection.

Many mill men may claim that two inspections per year are not sufficient for proper machinery maintenance. It should be remembered that two inspections a year are exactly two more than most of our cotton mill machinery is receiving today.

These accompanying inspection forms for the card room have proven practical through years of use. Two main objects were sought in compiling them. First, to give all the important information necessary, second, to make this easy to record and check, and withal to keep inspection within reasonable limits as to time consumed and technical knowledge required by the inspector.

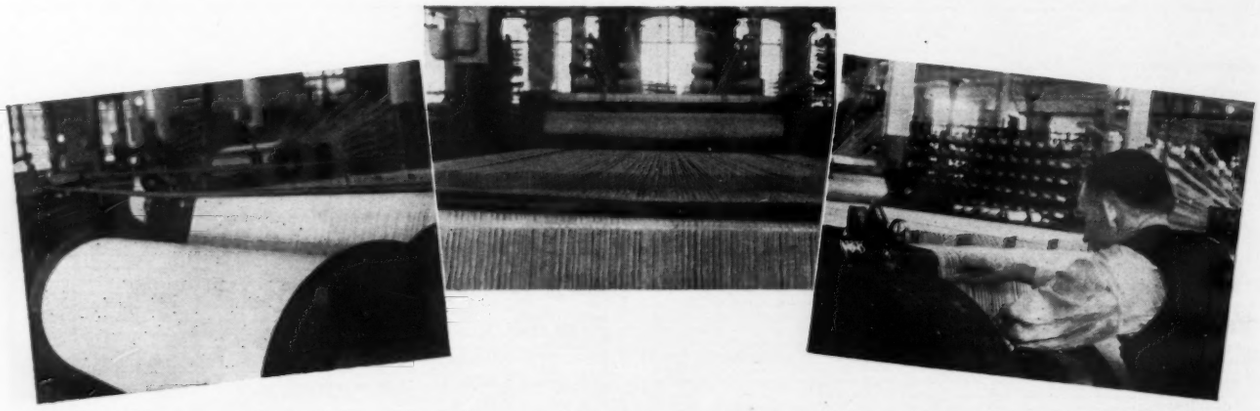
Inspections show that failure of machine parts can be traced to three general causes: defective material, faulty adjustment and improper lubrication. The last named is by far the greatest cause of failure. Correct lubrication schedules will be treated in a later article.

How to Sell Your Ideas

There is danger in presenting an idea to the man above you until you have given it mature thought. In case of doubt, always "sleep on the idea" before you "spring it." Here are some of the reasons:

1. Unless you have thought the idea through, the man above you will put questions to you which will show that you have not considered all angles.
2. Pondering the idea for a time will often enable you to improve on your own first idea.
3. Putting forward an idea before you have studied it thoroughly may cause you to overlook important considerations which the man above may think of, and his judgment of you may not be to your advantage.
4. Holding back until you are sure will give you further opportunity to get reactions of others and to test out your idea.
5. Presenting only mature ideas helps to develop in the man above you a greater confidence in you so that eventually he will have increased respect for all of your ideas.

—"*Management Information*", *Elliott Service Co., Inc.*



Preparing Warp and Filling for Duck Looms

By John Middleton

(Article Four*)

ANY OPERATION in the mill that can be paid for at a satisfactory piece rate usually will be found to be advantageous both to the mill and to the operative. This applies equally well to the warping, beaming and filling winding department. However, it is often difficult to work out satisfactory rates in this department, especially if a large number of yarns and styles are run. We are making a few suggestions in this connection, which will have to be modified to suit local conditions.

Beaming Piece Rates

Beaming consists essentially of two main operations, creeling and running. Each of these operations might be subdivided. Pulling over might be called a part of creeling or it might be classed as running. Taking down the bobbins from the previous creel would probably be called creeling. Creeling is usually the operation performed by the creeler hands and running the work is done by the beamer tender and his helper, yet these operations are so tied up with each other that beamer tenders, helpers and creelers may be paid on the same basis, with a different rate for each type of work of course.

One piece rate system that might be used consists of a standard unit for creeling; for example, 1200 ends per hour, and a standard unit for running such as 1000 yards per hour. A set of warps containing 1200 ends (1000 yards in length) would require two hours to run. If the rate were based on a beamer rate of forty cents per hour then the set would pay eighty cents for beaming or .08 per 100 yards.

The creelers and the helpers would be paid a proportionate rate based on this beaming rate. If the set were actually put up and run out in less than two hours, then the *actual* pay would be greater than the *base* pay of forty cents per hour. A set consisting of 2050 ends (2400 yards) would on this basis require 1.71 hours creeling time and 2.40 hours running time or a total of 4.11 hours, which, at 40 cents per hour would make the set pay $1.64 for beaming, this forming a basis for paying the helpers and creelers.

It is possible to work out a chart (Fig. 1) on this basis, by taking a representative number of ends and yardages, and using the following formula:

C = Creeling Time
R = Running Time
C + R = Total Time (T)
B = Base Rate
BT = Base Pay (P)
Y = Total Yardage

$$\frac{P}{Y} = \text{rate per yard}$$

(To shorten the decimals the rates in the chart are given per 100 yards.)

To find the rate in the chart for the set with 2050 ends (2400 yards long) referred to previously, lay a ruler on the line opposite 2000 ends (nearest to 2050 ends) and follow it to the column headed by 2500 yards (nearest to 2400 yards) and the rate will be found to be $0.067 per 100 yards. The 2400 yards multiplied by this rate gives $1.61, the beaming base pay, as compared with $1.64 as worked out on the actual basis of 1.71 hours creeling time and 2.40 hours running time.

This system, while complicated to a certain extent, has the advantage of paying for each operation on a fair basis. Care should

*The first three installments in this series appeared in the March, April and June 1940 issues.

be taken, however, in working out the standards of creeling and running time to see that the operatives are working at a gait that they can maintain. We have observed a tendency in some operatives to slow up when they knew a piece rate was being established so that when the rate was adopted they could speed up and immediately get a boost in wages.

The question of unavoidable lost time comes up in connection with the establishment of any piece rate. Of course no one would expect any group of operatives to maintain 100 per cent efficiency at all times, yet any piece rate should be set as nearly that figure as seems practical. Operatives should be allowed a reasonable margin for time out to get water, go to toilet and so on, but time lost waiting for yarn, waiting on beams, waiting on yarn inspector or creel checker should not be considered when establishing piece rates. It is assumed that the overseer and the secondhands will so manage the production as to prevent this kind of waiting.

Should the help be paid for unavoidable waiting? This question often comes up and there is much difference in opinion among overseers as to what should be done in such cases. I think, and this is only a personal opinion, that if the piece rate is such that no lost time is considered, making it necessary for the operative to work as much as 90 to 95 per cent of his time to make production, he should be paid for substantial periods of waiting for which he is not responsible. When should this lost time be made up, the day on which it was lost or at the end of the week? We can see no incentive for the operative's trying to better his production one day, if he knows that he will lose it the first day that he has to wait for yarn, beams or other supplies.

Another piece rate system for beamers, helpers and creelers might be based solely on the number of bobbins creeled, irrespective of the yarn contained on the bobbins. This method is by far the simpler to understand, but it makes no provision to take care of running time, which might be important in the event that a number of "fine" creels were running at the same time. This method consists of keeping up with the number of bobbins creeled each day and paying each group of operatives according to a predetermined standard similar to the standard creeling time as described in the other piece work system outlined in previous paragraphs. After all, there is so much yarn to be creeled, yet one would be surprised how much less anxious the creelers are to get it up when they are working by the hour. If the beamer tenders and the helpers are also paid on the basis of the number of bobbins creeled, they will work hard to get the creels run down so that the creelers will have a place to put yarn. Under this system the beamer tenders and helpers will often be found helping the creelers when they are not busy in front of the beamers.

As we have already stated, a piece rate plan based solely on the number of bobbins creeled makes no provision for running time. As long as average creels are being run, that is, creels that are composed of both fine and coarse yarns, so that a creel will be empty for the creelers when they are ready for it, then the system will take care of itself. On the other hand, if several fine creels are run in succession, the creelers may "catch up", while the beamers will have to continue to run in order to get a creel empty. In this case there seems nothing else to do except to pay the help by the hour until another creel is out ready to be creeled again.

In the first system outlined each beamer tender is paid exactly for what he does, the helper, his part of the number of beamers that he waits on, and the creelers their share of all the sets creeled. There is a certain amount of cooperation required among the different groups if the plan is to work successfully. If one beamer tender

CHART OF BEAMING RATES

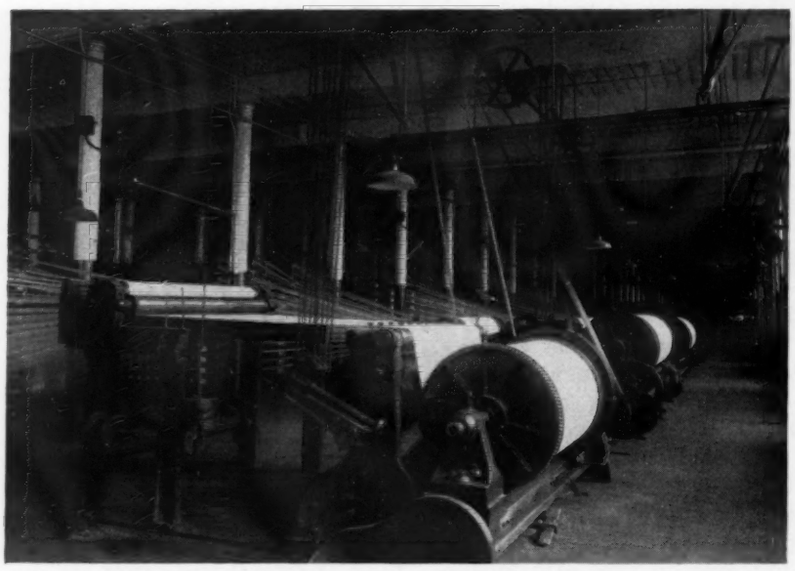
RATE PER 100 YARDS		YARDS													
	ENDS	.25	.30	.33⅓	.40	.45	.50	1.00	1.10	1.20	1.30	1.40	2.00	2.50
		250	300	350	400	450	500	1000	1100	1200	1300	1400	2000	2500
.208	250	.073	.068	.065	.061	.058	.057	.048	.048	.047	.046	.046	.044	.043
.250	300	.080	.073	.069	.065	.062	.060	.050	.049	.048	.047	.047	.045	.044
.292	350	.087	.079	.073	.069	.066	.063	.052	.051	.050	.049	.048	.046	.045
.333	400	.093	.084	.078	.073	.070	.067	.053	.052	.051	.050	.050	.047	.045
.375	450	.100	.090	.083	.078	.073	.070	.055	.054	.053	.052	.051	.048	.046
.417	500	.107	.096	.088	.082	.077	.073	.057	.055	.054	.053	.052	.048	.047
.853	1000	.173	.151	.135	.123	.114	.107	.073	.070	.068	.066	.064	.057	.053
.875	1050	.180	.157	.140	.128	.118	.110	.075	.072	.069	.067	.065	.058	.054
.917	1100	.187	.162	.145	.132	.122	.113	.077	.073	.071	.068	.066	.058	.055
.958	1150	.193	.168	.149	.136	.125	.117	.078	.075	.072	.069	.067	.059	.055
1.00	1200	.200	.173	.154	.140	.129	.120	.080	.076	.073	.071	.069	.060	.056
1.04	1250	.206	.179	.159	.144	.132	.123	.082	.079	.075	.072	.070	.061	.057
1.67	2000	.307	.262	.231	.207	.188	.174	.107	.101	.096	.091	.089	.074	.067
1.75	2100	.320	.273	.240	.215	.195	.180	.110	.103	.098	.094	.090	.075	.068
1.83	2200	.333	.284	.249	.223	.202	.186	.113	.107	.101	.096	.092	.077	.069
1.92	2300	.347	.296	.259	.232	.211	.193	.117	.110	.104	.099	.095	.079	.071
2.00	2400	.360	.306	.269	.240	.218	.200	.120	.113	.107	.102	.097	.080	.072

FIG. 1

This chart shows beaming base rates, using a standard of 1200 ends per hour creeling time, 1000 yards per hour running time and 9.40 per hour base pay, and as shown in the chart the rates are per 100 yards. The chart is "broken" to illustrate the rates on a wider range of ends and yardages.

The pencil figures at the left of "ends" and above "yards" are the hours, or fractional parts of an hour, required to "creel" and to "run" in each case. They facilitate checking the rates. In making a chart for the reader's mill, these figures may be left off; the editors left them intact because some readers may consider them interesting.

Regardless of the advantages or disadvantages of the chart as a basis of actual piecework rates, some interesting comparisons may be made. For example, there is often some discussion as to the comparative cost of running full sets and less than full sets on beamers. Using the set made up of 2050 ends, 2400 yards, illustrated in this article, the rate per 100 yards is $0.067. If the set had the same number of ends, but was only 250 yards in length, the rate as given in the chart will be seen to be $0.307 per 100 yards. The reason for this is very clear. It takes just as long to creel the 2050 ends regardless of the length of the yarn on the bobbin, so the cost of creeling is borne in the one case by 2400 yards and in the other by 250 yards at a correspondingly greater cost per yard. (Inasmuch as the running time, as used in the chart, includes doffing the beams, the cost for the shorter lengths will probably be actually higher than given in the chart, as it takes about as long to doff a beam containing 250 yards as it does one containing 1000 yards.)



"lays down" he hurts no other beamer tender, but his helper, and all the creelers are affected. If the creelers slow up on one beamer they hurt this beamer tender, his helper and themselves, but not the other beamer tenders and helpers. Under the other piece system, which we described, complete cooperation is necessary because the entire beaming crew of tenders, helpers and creelers have their pay based on the total number of ends tied by the creelers, so what affects one affects all. This calls for crews that are as evenly matched as possible, and for a lot of tact and skillful management on the part of the overseer and the secondhands. Warper tenders and creelers may be paid on a basis of the number of ends tied.

System for Paying Other Operatives

Splicers may be paid on the basis of the number of knots spliced; however, as pieces are never uniform in size provision must be made for running the larger pieces, otherwise the operative may have to wait for the pieces to run out, thus being prevented from tying as many knots as she could tie if she had the opportunity.

Filling winders may be paid by the pound, or to make the rate more easily understood, so much per hundred pounds. This rate must be based on the possible production of the winders with the desired allowance for putting on supply packages of yarn and for doffing, cleaning and so forth. This, of course will call for almost as many rates as there are kinds of yarn, although it is possible to group the rates, within reasonable limits, to reduce the number of rates. Since the skein (120 yards) is used widely as the unit of length in dealing with cotton yarns, and as yarn counts are based on weight, then groupings could be made of the various ply yarns being run, and as an example yarns weighing from (Y) grains to (Z) grains, per 120 yards, would pay (X) cents per 100 pounds. The weight of any new filling could easily be figured and the rate found by seeing to which weight group it belongs. We think that it will be found to be more satisfactory to have the weight range in each group fairly narrow, thus having more rates. If the weight range is too wide fillings weighing on the "low side" will not "pay" the winder hands very well and will cause complaints—although no one seems to remember that fillings weighing on the "high side" will pay above the average.

In order to keep up with the filling produced by each winder hand, a person known as a filling weigher should weigh the filling at frequent intervals, entering up the amount of each box of filling on a filling sheet, or a winder production sheet. (See Fig. 2.) The filling weigher will enter up the kind of yarn being run and leave a space under this for the rate. Then in the spaces below enter the weight of each box of filling as it is weighed. At the end of the shift the production sheets are carried to the office of the department where the rates are inserted, the production figured and the amount each winder hand made entered on the pay roll and on the production sheet. If the department office schedule is such that the production sheets will not be ready when needed then two sets of sheets could be used, with one being kept in the office and the other by the filling weigher.

In connection with the weighing of filling is the question of tare, that is the weight of the cop butts in the box. It is well, in our opinion, to calculate this by actually weighing possibly 100 boxes, with the number of cop butts found in 100 representative boxes, then using the average weight of these boxes and cop butts as the tare. Of course if more than one size box is used a different tare must be used. These tare weights should be kept in permanent form at the filling scales so that the winder hands will know exactly the tare that is being deducted from the weight of each box of filling. It is also of considerable advantage to have a pair of scales with a tare beam so that the net weight of the filling will show on the weight beam, obviating the necessity of any calculation on the part of the filling weigher.

Care of Yarn

Because of the large amounts of yarn in open boxes and exposed in creels and on beams great care has to be taken in this department in oiling and cleaning. Overhead shafting and belts are especially bad, and should be eliminated as

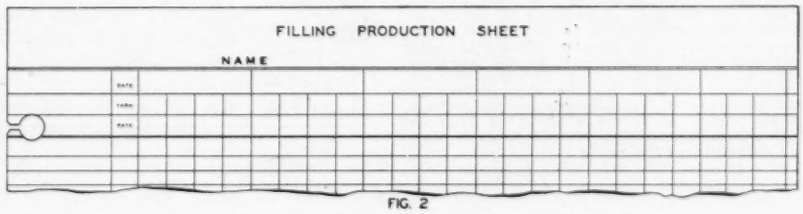
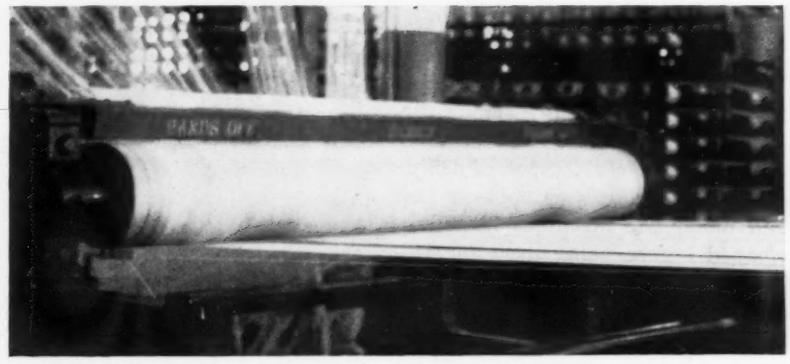


FIG. 2

much as possible. Yarn must be covered when oiling or cleaning overhead, and boxes of yarn must not be left under motors or hangers at any time. Covers should be provided for yarn troughs at the winders, and quilled filling should be put right into the filling boxes and not laid on the winder shelves, which are often dirty and greasy.

The increasing use of oilless bearings and ball or roller bearings in this department is a step in the right direction. In some cases a light oil, which runs out of the bearings easily, may be replaced with an oil which will not flow so freely, thus giving better lubrication and at the same time protecting the yarn.

In connection with the use of compressed air for cleaning oil off in the warping, beaming and filling winding department, or in any other department in the cotton mill, it is the writer's opinion that the quality of the yarn and cloth is not improved by its use if the cleaning is done in the vicinity of any machines that are running, as the reader can observe for himself. The air blows oily lint and oily dabs in all directions and some of this is bound to get in the yarn or cloth being run near by. The only satisfactory way that we know to get oil and grease from a machine is to wipe it off with waste or a cloth; compressed air will not remove the oil and grease, or at least it will not for us. It seems logical to us, and of course this is only our view, that a vacuum cleaning system will in time be used in removing lint and dust from textile machines, ceilings and so forth. A central vacuum system has already proved successful in connection with card stripping, and we understand that to a limited extent the vacuum system has been tried in general cleaning. A centrally controlled system would have many advantages if properly protected from foreign objects which have a way of accumulating on mill floors. A large portable system would have some advantages, especially with regard to cleaning in out-of-the-way places. Air currents have a definite place in ginning cotton, and in opening and picking in the preparatory processes of the mill, and we see no reason why air currents could not be put to work in removing dust and lint that accumulate in every department of the mill, including the warping and beaming department.



Safety devices should be kept in place

Safety

The nature of the heavy machinery and other equipment used in this department makes it necessary to take all possible measures to insure the safety of the operatives. A few horrible accidents in connection with beaming, some in very recent years, should awaken the overseer of beaming to the full sense of his responsibility with respect to safe working conditions in this department. The beamers should be fully equipped with guards over gears, rolls, running beams and heavy pulleys, and under no circumstances should operatives be permitted to run the beamers with any of these guards off. It is sometimes necessary to take ends out of a set after it has been creeled, and accidents have occurred while this waste was being looped. In case ends have to be taken out at the creel beamer, these ends should be cut out at the eyeboard. This will prevent making waste as the yarn will be left on the bobbins in the creel. If possible, take out ends from the back beam at the section beamer, but if for some reason this cannot be done they should by all means be taken out behind the expansion comb, and never in front of the beamer where the waste may get caught in the running warp with horrible results.

Good Housekeeping

In no other department does good housekeeping pay such dividends, and perhaps in no other department is good housekeeping so difficult to achieve. The nature of beaming is such that production must be stressed, and in their haste to get a beamer running the tenders are prone to leave rollers, heads, rings, beam keys, and whatnot right on the floor where they get through with them. But where they might possibly gain a little time by not putting these things where they belong, the next man may lose more time in trying to find these same things which he may need for the particular set which he is getting ready to run. In the meantime some man in a hurry may stumble over one of these objects and fall, resulting in an accident. The overseer should study this situation carefully and should plan a conveniently located place for all of the various supplies needed to keep the beamers running; then he should see to it that everything is kept in its proper place when not in use. We personally know how difficult this is of accomplishment. The big, husky chap usually put to running beamers is generally not the type who is so very neat about his work. Again, if the beamers are operated more than one shift there is the possibility that the secondhand of one shift may not take this phase of the work very seriously, so it is up to the overseer himself to insist for the sake of efficiency and to promote safety that everything be put in its place when not in use.

Yarn boxes should be kept in line for very obvious reasons. When boxes have to be lined up near an alley that is being constantly used it is often necessary to nail a scantling along the alleyway to prevent the boxes being pushed out in the way. This has some disadvantages, for example, one might stumble over it, yet on the other hand, it is a very good way to keep boxes in line.

Around the filling winders one of the biggest problems of housekeeping is keeping cop butts and filling bobbins off the floor. Because of the grease that accumulates under certain types of filling winders, cop butts or bobbins that fall under the machines should be cleaned before being used for filling again. We think about the best way to assure that this is being done is to have the winder hands put any bobbins or cop butts which they pick off the floor at cleaning up time in a box or can and have some individual, possibly the oiler, clean these cop butts and bobbins with cleaning fluid before allowing them to be used.

A sufficient number of waste receptacles should be provided around all machines where waste will be made. Then it should be required that each operative put his waste in the proper receptacle. The ply yarn waste made in this department is rather expensive, having all of the carding, spinning and twisting room costs involved. Every precaution should be taken therefore to keep the amount of waste to a minimum. Since some waste will necessarily be made, all waste made should be properly taken care of so as to command the highest prices. For example, there may be as much as three cents per pound difference in the price of clean "white threads", or "clippings" and dirty threads, as swept up on the floor, so around creels, especially, operatives should be required to put the waste in the cans or boxes rather than just throwing it on the floor.

The lengths on the twisters should be as uniform as possible to prevent bad runouts on the warpers and the creel beamers. Short doffs are especially bad, often involving considerable lost time, splicing or tying-up of ends, generally resulting in an off-grade roll of cloth. Long doffs mean waste for the beaming room. The yarn from extra long doffs may sometimes be salvaged by splicing, but at considerable cost in proportion to the amount of yarn saved. There is often more involved in the question of twister lengths than just the human element; the type and weight traveler being used may affect the lengths, while frames of different makes may vary slightly in gearing, causing some variation in twist, with a resulting variation in length. Tests should be made by actually checking the lengths on the twisters, marking the doffs and watching the runout on the beamer or warper. If under the same conditions other doffs from the same frames run out too long or too short, then steps should be taken to correct the trouble. For certain work, requiring a lighter traveler, it is often necessary to make some allowance, otherwise the yarn may be too short.

The question often arises as to who should be responsible for keeping the record of the *runout* necessary to add to the length of yarn needed to make the actual warps. Inasmuch as there is some waste on the beamer in creeling and pulling over, as well as a certain amount which must be left on the bobbins in the creel to prevent the ends running through the eyeboard, and some allowance must be made on each warp for tying-in and for the runout on the loom, it seems logical that the beaming room overseer should keep this record. When a new yarn is to be run he may make comparisons with other similar yarn, and then add a few yards to be sure that the yarn will come long enough. (Excessive twist because of the greater contraction will call for a longer runout.) After the set has been run on the beamer or the warper, he should correct the length, if necessary, then write his "okeh" and the date on the runout record. On the other hand, if there are certain frames which require an allowance for any reason to make the yarn run out properly, then it should be up to the overseer of the twisting department to keep a record of these frames and to make this allowance on the lengths as ordered by the beaming department. We are convinced that more attention given to the subject of twister lengths would result in savings, both in waste and in labor cost, and an improvement in the quality of the duck.

As has already been stressed in these articles, constant personal attention is necessary to get the maximum efficiency in the beaming and warper room. The machines are stopped so much of the time for creeling and doffing that every effort must be made on the part of the overseer and the secondhands to shorten this time during which the machines are unavoidably stopped, and to do everything possible to reduce the amount of other lost time. Following is a list of some of the reasons for lost time on the creel beamers; these things having been personally observed:

1—Waiting on yarn:
- (a) Yarn ready, but not having been sent from twisters;
- (b) Not enough yarn ordered:
- (c) Not enough yarn made because of error in checking in twisting room.

2—Waiting on beams:
- (a) Helper behind with work, or inefficient;
- (b) Set started without knowing whether beams were available.

3—Changing press roll (compressor roller) heads:
- (a) Running set on more than one length beams (for different width looms);
- (b) Beams varying in length a greater amount than can be taken care of by the spring head on the roll.

4—Waiting on helper:
- (a) The helper waiting on another beamer;
- (b) Helper detained in beam room because beams have been incorrectly placed, or searching for pins or burlap.

5—Miscellaneous waiting:
- (a) Tickets not ready when creelers are ready to put up yarn;
- (b) Wrong creeling information on tickets;
- (c) Waiting on creel checker;
- (d) Lot of ends down when creel is pulled over;
- (e) Visitors talking to creelers, helpers or beamer tenders;
- (f) Beamer tenders, helpers or creelers leaving work;
- (g) Beamer stopped to show up bad work;
- (h) Splicing or tying up short yarn;
- (i) Time lost searching for beam keys, roller heads, bolster studs, beam journal bushings and so forth.

The reader will doubtless say to himself that the remedy for most of these causes of waiting is obvious, attention on the part of the overseer and the secondhands of this department to the details of running the job. And we concur in this opinion, for this, in a large measure, is one of the underlying reasons for the writing of these articles.—THE END.

Listen to Others

It's a good idea, if you want to broaden your own viewpoint, to get the other fellow's point of view.

One of the most unfortunate things for any person is to become satisfied with the quality of his own ideas.

The minute a man thinks that his own conclusions are "the last word" it is a sure sign that he is "slipping."

When one thinks of the values of the combined experiences of all the people we meet and associate with, it is just plain dumb not to profit as much as possible by the experiences, the opinions, and the viewpoints of all the people with whom we come in contact.

And, don't think for a minute that all your new ideas must come from someone who is supposed to be smarter than you.

The wise supervisor pays close attention to the ideas of the people under him as well as the ideas of people beside him and above him.—*"Management Information", Elliott Service Co., Inc.*

Alabama Operating Executives Form Discussion Group at Auburn

Photo by J. H. Braswell

Officers of the new Alabama association Left to right: J. E. Warren, H. B. Bergfeld, A. H. Randall, and Fred F. Phillips, members of the executive committee; Ben H. Crawford, secretary-treasurer; Frank K. Petrea, general chairman; and John P. Baum, vice-general chairman. (Nelson N Harte, member of executive committee, was absent) . . .

FORMATION of a discussion group for the superintendents and overseers of the cotton-textile mills of Alabama was effected at a meeting on Saturday, July 20, at Alabama Polytechnic Institute, Auburn, Ala. The organization is to be known as the Alabama Textile Operating Executives, and it plans to hold two regular discussion meetings a year, one in the spring and one in the fall. The first of these—subject to be announced later—will be held at Auburn on Saturday morning, November 9, preceding the Auburn-Clemson football game there on that afternoon.

The organization meeting last month followed a series of conferences by an interested group of Alabama superintendents who for some time have felt the need of such an organization for the mills of that state. Remote from the area in which the discussion meetings of the Southern Textile Association are held, the Alabama men have been attending, within recent years, the meetings of the Textile Operating Executives of Georgia, at Georgia Tech, in Atlanta. The purpose of the new Alabama group will be to provide for the mill men of that state a medium of their own through which they can discuss mill subjects and problems and work in other directions for the welfare of the mills and their working forces.

There were approximately 100 Alabama mill men at the organization meeting at Auburn on July 20. Frank K. Petrea, superintendent of the Samoset Cotton Mills, Talladega, Ala., had been designated by the organizing committee as temporary chairman, and presider. He introduced Dr. L. E. Duncan, president of Auburn, and E. W. Camp, head of the textile school there, for addresses of welcome, and then called on Dwight M. Wilhelm, secretary of the Alabama Cotton Manufacturers Association, which is composed of the heads of the Alabama mills, who renewed the pledge and endorsement of that body toward the proposed organization. Robert W. Philip, editor of COTTON, who has been secretary-treasurer of the Textile Operating Executives of Georgia since its formation in 1922, was called upon, and outlined some of the methods and procedures of the Georgia organization. He stated that the Alabama men have the best wishes of their neighbors in Georgia for their new association, but emphasized that mill men from Alabama, as well as those from other states, will always be welcome at the Georgia meetings at Georgia Tech in March and September.

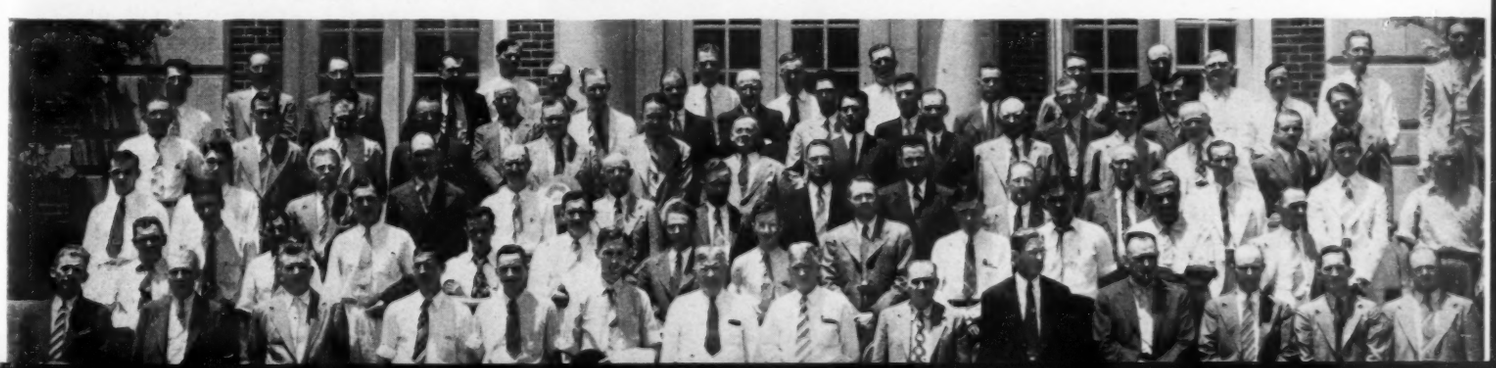
The final address was made by R. W. Jennings, superintendent of Lanett (Ala.) Mill Division of West Point Manufacturing Co., who served as the first general chairman of the Textile Operating Executives of Georgia in 1923, and who in 1939-1940 was president of the Alabama Cotton Manufacturers Association. Mr. Jennings spoke of the benefits to be derived from informal round-table discussion of mill subjects, and the value of personal association and contact between operating executives, and gave splendid encouragement to the movement.

Officers for one year were elected for the Alabama Textile Operating Executives as follows: Mr. Petrea, who served as general chairman of the Textile Operating Executives of Georgia in 1930, was made general chairman. John P. Baum, assistant manager, Pepperell Mfg. Co., Opelika, Ala., is vice general chairman. Ben H. Crawford, professor of weaving and designing at Auburn, was made secretary-treasurer, and an executive committee of five was named, consisting of the following:

H. B. Bergfeld, superintendent, Bemis Bro. Bag Co., Talladega, Ala.; Nelson N. Harte, superintendent, Merrimack Mfg. Co., Huntsville, Ala.; Fred F. Phillips, vice-president, Buck Creek Cotton Mills, Siluria, Ala.; A. H. Randall, general superintendent, Alabama Mills, Inc., Birmingham, Ala.; and J. E. Warren, Avondale Mills, Sylacauga, Ala.

It is expected that the Alabama organization will plan to hold its meetings regularly at Auburn, which operates a textile engineering school, just as the Georgia association meets regularly at Georgia Tech, in an effort to encourage closer relationship between the textile school and the operating executives in the industry.

The group attending the organization meeting of Alabama operating executives at Auburn on July 20



CLOTH ROOM PRACTICE

(Part Five)

By Erwin Hard

• This is Part Five of a series of articles on cloth room practice and management. The first four installments appeared in the March, April, May and June issues. Thus far general handling of the cloth of various types, selection of employees, types of trucks, lighting, humidification, stamping and spot cleaning have been discussed. The articles are prepared by experienced mill men.

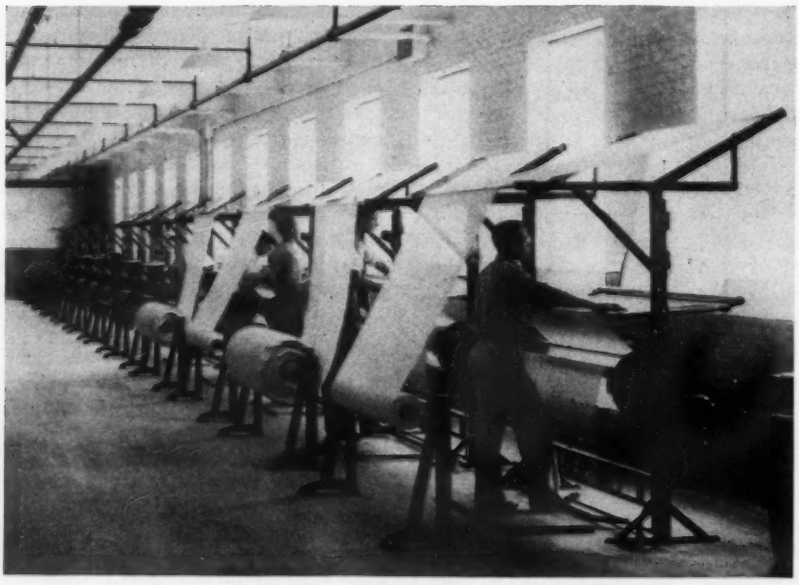
Singeing Selvages

MOST PLANTS doing their own finishing usually have in their machinery complement a gas singeing machine, also a brusher and shearing machine. Regardless of whether or not the cloth is run through these units a certain amount of hand singeing is necessary. It is true that materials like handkerchief cloth, box loom checks, and certain towel goods have to be given special attention in singeing. This is due to the unusual number, and length, of the filling loops along the selvages.

Some selvages can be singed after finishing the cloth but usually it is best to singe by hand just before the cuts are unrolled at the inspecting machines. At this point the various widths have been separated on the trucks and it is easier to do the work properly. The man who does this work must be very careful not to hold the torch too close to the cloth, and to keep it moving back and forth rapidly enough not to burn the outer ends of the selvages. A small whisk broom is about the best thing to snuff out the flame from the burning threads. The singer will touch the flame to the ends and then snuff it out quickly with the broom to avoid burning. This action can be repeated over and over alternating with the flame and broom until the selvage is sufficiently singed. There is somewhat of an art to doing this job as it should be done. The cuts must also be stacked straight so the ends of the cuts can be singed without scorching the face or back of cloth on the other rolls.

Mills located in towns where gas is available are fortunate in that they can simply pipe the gas to the point where the singeing is done, and then with the addition of the proper length of flexible hose, and a hand gas torch, the equipment is complete. Mills not having access to this may use an alcohol torch or urban gas. The alcohol torch is very simple and yet it serves the purpose very well.

There are some selvages which present a very difficult problem when it comes to singeing. The singeing can be done very well if the loops can be carded out, so the flame from the torch will get them. The writer has used successfully for this, short pieces of wire burnisher fillet from the card room. Simply cut off pieces of the fillet about 7 or 8 inches long and by scratching the loops of filling at the end of the roll of cloth they can be carded out so the flame will get at them. Of course, reasonable care must be taken not to tear the selvages.



Inspecting cloth by the "through-light" method. Courtesy Hermas Machine Company

Inspecting Wide Sheetings

Why use two inspection machines in tandem on wide sheetings? In a recent article in this series written by another contributor he explains that "a leading mill uses two inspecting machines for tandem for wide sheetings." There are some very good arguments for and against such a practice, and the writer will not attempt to take either side of the argument but simply bring out the advantages and disadvantages of such a system.

In the first place let me explain that the purpose in using two of the machines in tandem is to put through more cloth, and inspect

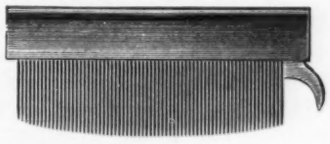
from both selvages toward the center of the cloth without running the cloth the second time. It also avoids the use of two inspectors on the same machine. Now in these days when floor space counts, this would be a great idea, but little or no space can be saved by having the machines in tandem as compared with having the cloth run over two separate machines. Wouldn't it be just as well to have one machine and have two girls work on the same machine? If a 50-inch piece of goods needs burling about once in every yard isn't it reasonable that 100-inch goods would have about two places in a yard? In working this way the mill saves the investment in added machinery, power to operate two, lubrication, machine parts, lighting, floor space, and many other savings.

Of course there is no argument concerning narrow sheetings because one inspector is able to take care of these widths, but this contributor's description concerns the inspection of wider goods. His plan has some merit. The first inspector handles the selvage on the battery side. Everyone will admit that this side requires more work because most of the filling imperfections occur on the battery side, due to the filling changes. This work is partially offset because this inspector does none of the cutting. She simply marks the cloth and the second inspector does this work.

The inspector on the second table in the tandem set works from the opposite selvage side. She does not have as many filling imperfections and the cutting and grading makes up for this. Another advantage is that if two girls were working on the same machine, side by side, one girl might be idle and her time wasted while the other girl had an imperfection to attend to. In other words the work units accomplished by each of the girls would be somewhat lower than with the tandem operation, because in this method neither of the inspectors would wait on the other to complete an operation. The writer is of the opinion that this system would compel the overseer to use "relief girls" as the whole operation would soon have to stop if one of them should leave her machine for a short time.

Some "Short Cuts"

There are many different kinds of burling irons for use in removing the bunched filling, lint, etc., from the cloth. They may be purchased in almost all sizes and shapes. The accompanying illustration shows an iron with a long needle point at one end. By having the needle and the nippers on the same instrument the inspector



can simply reverse it quickly as she has use for the other end. This saves a great deal of time for the inspector.

A comb is also shown. There is nothing unusual about this comb as it is used in almost every mill. The important point is to see that the comb is right for the cloth we are inspecting. It will be noticed that the teeth on this comb are curved. Now a straight comb should not be used for backing up filling on any except very light weight cloths. The reason for this is that on light count materials it is very important to move the filling in a straight line or it will look badly, while on heavy count materials it is necessary to move it by several strokes. It is also important to select a comb with the teeth of the correct size for the cloth being run. The finer the counts the finer the comb, the coarser the counts the coarser the comb.

Combing, after burling, is a very important part of the work. If the inspectors can be taught to use a wrist motion with just enough pressure to slip the filling into place without scratching up a nap on the face of the cloth, then we will never have any trouble from this part of their work. This requires careful training.

Another "short cut" which we use in our cloth room is to have a measure for all widths of cloth cut right in the wooden table tops. If the inspector or anyone has any doubt about the width of a certain piece of cloth all they have to do is stop and take the measure. They never have to look around and try to find a yardstick or measure, it is right there under the cloth at all times. We made a die to cover any width of cloth which we make, and by putting this face downward on the table top, and hammering it all along, the measuring scale figures and all are stamped right into the wood. This will save any cloth room overseer lots of trouble, by eliminating mixed widths, and by catching any cuts which come from the weave room too narrow.

In order to keep the various grades and widths of cloth from getting mixed, especially where the cloth made by the mill is white or one color, we use what are called "truck tabs". These are made to hang on the handle of the trucks. They are made out of wood with a flat iron band bent to make a hook which fits over the handle. The pieces of wood are about ½-inch thick and 4x8-inch in size, sawed out of dressed pine. The hooks are fastened on with two small stove bolts. A large number of these tabs should be available always to the people handling the cloth. The style, width, etc., can be stenciled on the piece of wood in advance and when a truck is to be used for a certain kind of cloth the tab is put on the truck. This is a great help in keeping an orderly cloth room.

Another "short cut", which is a very simple one, is the use of flat weights in banding or wrapping the cloth after it has been finished. When two bands are to be pasted around a bolt the girl who is doing this work can apply the paste to one band, stick it down, and by placing one of these weights on the end of the band, proceed to the next band while the first one dries. When wrapping individual cuts or packages the same procedure may be followed with reference to pasting the wrappers. The size and shape of the weights must be determined by the overseer to suit his particular work, but usually they are about

the right size to fit the palm of the hand. A great deal of time can be saved by this practice, and the wrappers can attain a very high speed in their work.

Bale Press

Most mills have already come to realize the great savings which can be realized by the use of a press, not only for baling, but for reducing the size of their shipping cases. If bolt goods put up on cardboards are packed in the press and allowed to remain there a short time they will look nice and "blocky", and go into a much smaller case when they are ready to be packed. The cost of the process of pressing is considerably less than the savings to be derived from it.

Some Fixing Pointers

The driving clutch on the cloth inspecting machine is about the only part which requires skill and care to keep in proper operating condition. To adjust the clutch when it is not operating as it should, turn the setscrew to the left so the pulley will turn by hand. In other words screw it out so it will be free enough to begin making the adjustment the other way. Then note when the lever is raised it will tighten the collar sufficiently to pull the machine. Wear may necessitate tightening the screw a little more from time to time. Care must always be taken not to jam the split collar too hard. Whenever it is necessary to take the clutch apart it should be washed out thoroughly with spindle oil and a little high grade grease applied to the lever cam and spool. The four important clutch parts on the inspecting machine, and the names and functions are:

Cast Iron Case—This is made fast to the driving roll shaft by a setscrew and contained are the working parts of the clutch except the lever and spool.

Split Collar—The function of this collar is to grip the hub of the pulley when the lever is raised.

Lever—The cam at the end of the lever lightens the collar when turned.

Spring—The spring tightens the lever and releases the ring.

Spool—The spool slides on the shaft when the operator presses or releases the foot pedal, and this raises and lowers the lever. This part is really what starts the operation of the clutch. The clutch should be oiled a little about once a week.

Cloth Folder

The cloth folder is a very simple machine and yet it requires careful adjustment, and if not kept in proper operating condition it will cause much trouble. The table springs should always be exactly the same on both sides or the leaves will operate in a "strained condition". The folding blades should be smooth and straight. The plush gripping at the ends of the table should be kept in good condition so it will hold the fold the same on every stroke. A folder operates badly if there is anything bent or out of line about the machine.

Foreign Matter

There is nothing which can cause quite as much trouble in the cloth or finishing room as pins, small pieces of steel, and other objects, which cut the cloth. The head of a pin can become imbedded in canvas covering on the inspecting machine rolls and other wooden or composition rolls in the cloth room and cut many yards of cloth before it can be detected. Many times the small cuts will not show up until the goods have been finished. The canvas covered rolls should be examined carefully every day or so. When they begin to wear much they should be recovered and not allowed to run after the wood roller begins to show. Where the machines have steel rolls coming in contact with the cloth they should be polished with fine emery cloth occasionally to take off any sharp places, burrs, etc. Tacks should never be used in applying canvas to rollers, as these will eventually cut the cloth. Always use glue.

The fixer should always keep on the look out for any overhead shafting hangers dripping oil. The surest method is always to keep well fitting drip cups under them to catch the surplus oil that would fly off on the cloth.

Most cloth rooms have a brushing machine with a calender rolling machine at the back. It is very important that the fixer look after the condition of the bearings, brushes, and blades in this machine. The brushes and blades operate at such high speed that they will throw oil if the bearings become worn, causing much spoiled work. The blades should be gone over with a flat file periodically to get out rough places. The fixer should see to it that the operator keeps strings cleaned away from around bearings and roller spindles as this will cause unnecessary wear and often a fire.

Highlights of Textile History

(The following interesting facts, as presented by Cash M. Stanley, of the textile school of the Texas Technological College, Lubbock, Texas, are verified in "Weaving by Hand and Power", by Alfred Barlow and other sources.)

The first sheetings, shirtings, checks and ginghams made in America appeared in 1790.

Protector rod: Richard Groton in 1791 patented a loom operated by a crank in which "a square piece of iron" is provided which strikes against a stop when the shuttle fails to enter the box.

Along about 1793 General Green's wife meployed a young man named Eli Whitney as a teacher in the family. Irked by the tedious task of separating cotton seed from the lint she remarked to Whitney, "If anybody can invent a machine for this job, you can". He did.

In 1821 Stephen Wilson patented a reeding-in machine.

Four hundred years before Christ a scribe of India wrote: "The people of India possess a kind of plant, which, instead of fruit produces wool of a finer and better quality than that of sheep; of this the Indians make their clothes."

Three thousand year old fragments of fabrics found in Egyptian mummy pits analyzed 104 x 64, 100s warp and filling.

Edmund Blood in 1671 obtained a patent for carding and weaving waste silk. This was probably the first attempt to utilize waste silk on the cotton system.

An old lawsuit of 1721 gives the labor set-up for a 100-loom "house"; weavers 100, wool sorters 4, wool pickers 10, wool combers 20, spinners 900, throwers 4, turners of the throwing mill 4, thread makers 4, doublers 50, bobbin winders 12, back-throw winders 12, quill boys 50, warpers 5, dyers 6, and pressers 7: total 1187.

CURRENT TEXTILE TOPICS

Civilian trade hangs on defense program

MID-SUMMER found the industries relying upon civilian trade, and not primarily on the defense program, constantly faced with the bogey of a sudden conquest of Great Britain by the Nazis. To that time, only the heavy cotton goods and woolen fabrics reflected in the textile industries the new national movement for preparedness which is calculated in the long run to give a strong forward impetus to the country's economy regardless of Europe.

Cautious buying of the summer by distributors of cotton goods cannot be deplored, since piling up of surpluses by consumers is disastrous also to the producers. Meantime, the national defense preparations began in June to create a volume of industrial activity in several directions and public purchasing power started upward, with immediate broadening of trade in consumer goods lines—obviously a predication of good business ahead for textile manufacturers.

In fact the United States Department of Commerce, in a July report, showed that general orders of manufacturers had in May realized a definite turn for the better. That was without the aid of the new defense measures. The May rise in orders, it was stated, had carried incoming business appreciably above the shipment level for the first time since last fall. The best gains were in steel and the machinery lines.

Cheerful sentiment in Worth Street

While the June burst of activity in cotton goods was not followed by a steady volume and the forward movement in this division of textiles was delayed, the reaction in the big New York market did not dispel a cheerful feeling toward the future. Not only were there orders for heavy cottons, incident to the government preparedness activities, but a growing industrial demand from the general pick-up of production.

Retail trade reports, from the industrial regions particularly, were significant of increasing employment and increased purchasing in the stores. The trend of public spending was a criterion of active coming months in the mills, as political upheavals abroad were not a likely hindrance to consumption of goods in this country so long as the wages were forthcoming for the workers.

Thus in the face of cautious purchasing by distributors of finished goods and converters of gray goods, mill men were in a confident frame of mind as the present month approached. Even a cautious policy of buying could develop through steadiness into a good volume. And as a prominent merchant said: Defeat of the English would cause a slump, but it would bring in its wake a feverish activity for defense preparations.

Regular business seasonally quiet

Mill men realized by the middle of July that business from government agencies already had reached impressive proportions, not to mention large British orders for such a line as cotton ducks. It was a time of seasonal slackness in civilian trade for cotton manufacturers. In contrast with a year ago, however, the mills were restoring operations rather than talking further of the need of curtailment till business expanded.

Mid-summer conditions assumed a peculiar complexion, with hesitation on normal lines under the spell of misgivings over the fate of Great Britain and confidence in the long-range outlook for the domestic economy. There were complications in regard to tax legislation which kept the stock market in a quiescent state and commodities at subnormal prices. The last condition was partly due to dislocation of international markets by the fall of so many European nations.

At the same time a group of wholesale dry goods firms, in informal meeting, offered as a consensus of their belief that business during the fall season might be brisk and that a boom even could develop in the event that the domestic political situation was considered encouraging. The subnormal level of prices for gray goods itself, under the circumstances, was a basis for expectation of more activity in the market. It was an investment basis.

All-inclusive call for cotton fabrics

From the three sides of defense, industrial activity and consumer buying, the recent situation has been pointing to the most comprehensive demand for cotton constructions that can be imagined. In addition to the normal uses of cotton in the manifold fields of human activities, there are also the substitutions for other products such as paper and burlap that may come in the disordered state of international commerce today.

Under the armament program alone, it is stated, wide uses of cotton are involved for clothing and equipment. The wider employment of workers in this program entails a substantial demand for work clothing. The ramifications of this one movement clearly are great. General expansion of industry also means a larger demand for the many cotton uses of manufacturers in various fields. The *Rayon Organon* notes that there has always been a correlation between cotton consumption and general business activity.

Natural versus synthetic fiber

Textile manufacture is more and more subject to the problem of adapting itself to the encroachment of synthetic upon natural fibers. The days of war have emphasized, rather than minimized, this development. Thus for one reason or another, the deliveries of rayon yarn during the first five months of 1940 are reported to have attained the highest volume on record in this country. World production in 1939, as reported awhile ago, was the largest on record.

It is an old story how rayon has cut into the field of silk, with hosiery in recent years the main dependence and now that outlet is in jeopardy through the development of nylon. But it is a new story that even the government, strictest of buyers in its specifications of construction, is giving attention to the possibilities of rayon in admixture with wool.

This last is a precaution against the disorganizations from war which might create a shortage of the natural fiber, wool, but the move is significant. Cotton maintains an extraordinary percentage of the textile business, by reason of its low cost. Yet 1930 production was 82 per cent of the poundage for the four leading fibers, against 74 in 1939, and rayon rose from 3 to 12 per cent.

New England Mill Situation

COTTON manufacturers of the northeastern district have been waiting many months for the development of a broad market that would promote

free operation of equipment. Since the splurge last fall hardly anything more than hand-to-mouth orders was the rule right up to mid-summer. Incipient spurts which reduced accumulations of standard cloths two or three times were not the kind of business that moves specialties in volume.

But on top of a curtailed schedule of operations by the fine-goods branch through much of this year came closings for vacations and rehabilitation of equipment early in July which kept output of cloth well in hand. Once more this division of the industry has followed a policy in times of poor business that meant a favorable position from which to start a new forward movement on a satisfactory basis.

Altogether, the first half of 1940 was disappointing in the character of business for the mills. When the impetus of activity from late 1939 orders was lost to the mills along in the middle of February or so, a period of spotty business ensued and mills continued through a time of unprofitable prices in spite of conservative operating policy. The only consolation was that the half-year ended with signs that the next six months would show improvement.

Production below the 1939 figures

Government figures on national consumption of cotton by mills in June were significant of prevailing curtailment throughout the industry and this was in line with a consistent policy by most units of New England to keep production down in times of poor sales. As stated by the First National Bank of Boston, cotton mills of this district had slackened operations more than seasonally since 1939. Cloth prices were low in terms of the raw staple and buyers were cautious. Hence mills were conservative in operation.

Government figures for June, being the smallest for eleven months in consumption, were encouraging to New England where the balance of supply and demand for the industry at large is a dominating factor. The mills in the fine goods division have held prices better than in other sections by reason of closer control of production in accordance with demand, but values have shrunk nevertheless as the standard fabrics have made the general market.

During the year begun in July of last year, only two months showed consumption of cotton below the comparative periods of the previous twelve months for the whole industry, viz., March and June, 1940. In New England this was true of March and May, as well as of June. The figures were not in for June at the time of writing, but reports from the industry indicate that curtailment was continued through that month and into July.

Year slightly above 1939

Figures on the first five months of activity in the mills of this district show a rate little above that for 1939 in the aggregate. The consumption of cotton showed a net increase of 2.5 per cent. This was because of gains in January, February and April, which slightly overbalanced the losses in March and May. May consumption amounted to 71,030 bales, compared with 72,968 bales a year previous.

Connecticut mills have been having something of a comeback since the war started, as reflected in activity this year. The first five months showed consumption of 28,455 bales of cotton, against 25,170 the previous year, or a gain of 13.1 per cent relatively. Maine had a gain of 7.6 per cent, at 65,329 against 60,735 bales.

Advices from Maine at mid-summer were that mill men looked for a decided pick-up in business before long, as a result of the armament program. Maine textile mills have been particularly sensitive to changing business conditions. It is noted that the two marked recovery periods of the last ten years—1933 and 1936—were led by the cotton mills of the state. The woolen mills there already have shared in the national defense plans.

Massachusetts mills consumed 194,212 bales in five months of 1940, against 181,108 for the period in 1939, or a relative gain of 7.2 per cent. The mills of Rhode Island, however, lost 4.1 per cent net with consumption of 45,235 and 53,975 bales for the respective years. New Hampshire figures were 45,235 and 53,975 bales, a loss of 16.2 per cent. Vermont lost 28 per cent, at 2,769 against 3,845 bales.

New England Mill Notes

Nashua Manufacturing Company has introduced an entirely new bed sheet. It is called "Indian Maiden", a combed-yarn percale sheet, in the range of $1.75 for the 72x108-inch size, with other sizes in proportion. Pillow-cases are also made of the new line.

Liquidation of the Taber Mills Corporation marks the final chapter in a well known New Bedford enterprise. The former employees tried to assure continued operation of the plant, but failed to raise the necessary money. After being closed for a year, the Taber property has been sold.

Recently a report stated that the former plant of the Ware Valley Manufacturing Company, one of the finest of the former Otis group of mill buildings, at Ware, Mass., probably will soon become the property of the town. There were unpaid taxes for four years against the plant.

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Cost Booklet for Cotton Cloth Mills

"A Cost Outline for Narrow Sheeting Mills" is the title of the latest in the series of cost booklets published by the Cotton-Textile Institute. Although intended primarily for distribution among the mills of the narrow sheetings group, a limited number of copies of this book let are available for general distribution, the Institute announces.

Designed specifically for the type of mill that manufactures narrow sheetings and allied fabrics, this outline displays the essentials of a simple method of predetermining costs, for sales purposes, of the products of a typical narrow sheeting mill. It demonstrates, with concrete figures, the step-by-step development of normal production costs through each of the several mill processes from raw cotton to the woven fabric. With certain modifications, this outline may be used as a guide to similar cost developments in other types of grey goods mills.

The mill organization selected for this demonstration is purely an imaginary one and all figures used are hypothetical, being employed merely for purposes of illustration. In method and arrangement, this cost outline resembles very closely the Institute's former publication, "A Method of Predetermining Costs in Cotton Yarn Mills," which was released in 1930.

Containing 40 pages, the outline is mimeographed on 8½x11 inch loose-leaf sheets securely bound between heavy paper covers. It is priced at $1.00 per copy and may be obtained direct from the Cotton-Textile Institute, 320 Broadway, New York City.

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"Zelan" Finish Sales Tripled

Sales of "Zelan" durable repellent finish have tripled within the past six months, it is announced by E. I. duPont de Nemours & Co. Applications to cotton ski garments, golf jackets, hunting coats, fishing suits, raincoats and gabardine sides of reversible coats are increasing; with rainwear and cotton sports jackets still taking a pig part of the production of the finish. A new use for the finish is organdie aprons, and umbrellas are now being treated with it, as well as sail cloth, wind-resistant poplins, corduroys and spun rayons for sports costumes, etc.

◆

L. M. KINCAID is now master mechanic at Wiscassett Mills Company, Albemarle, N. C. He formerly was connected in a similar capacity with Kendall Mills, Paw Creek, N. C.

"THE SITUATION" as seen Across an Executive's Desk

July 20, 1940

ANOTHER month has come and gone and the textile industry is waking up to feel the beneficial results of tremendous orders placed by the government for its national defense program. As a matter of fact, the most important thing that has happened to the textile industry was the appointment of a committee of textile advisors to the National Defense Commission. The appointments were made about five weeks ago and are as follows: Robert Stevens, J. P. Stevens Co., chairman; Arthur Besse, president of the National Association of Wool Manufacturers, in charge of woolens; Howard J. White, manager of the rayon division of E. I. duPont de Nemours and Co., in charge of synthetics; and Charles A. Sweet, vice-president of Wellington Sears Co., in charge of cotton purchasing with Earle R. Stall, president of F. W. Poe Manufacturing Co., in charge of cotton production. This committee is composed of some of the ablest men in the textile industry and the cotton-textile industry is particularly fortunate in having men of the caliber of Stall and Sweet to look after their interests.

At this point in the game these textile advisors are busy making surveys of the industry in order to balance production capacity with the needs of procurement divisions of the Army and Navy. So far there has been found no need for alarm in shortages in the cotton-textile end. This industry, unlike so many other vital industries, is still capable of over-production for normal needs—a situation in physical equipment left over from the last World War.

National Defense Orders Are Helping Textile Mills

Actually the industry is finding new life blood in the quantity of government orders already placed with them under the defense program and there is every reason to believe that this governmental purchasing will gather more and more momentum as the months go on. Just now we could almost say it was in the experimental stage. Up to July 10 a total of $36,500,000 worth of contracts have been let by the government. It is said that two-thirds of this amount went to New England mills but this is because of the woolen industry which received a considerable portion of those orders. Leaving woolens out of the picture, cotton-textile mills are jumping ahead in operation and in sales with about $15,000,000 total contracts in cotton goods covering everything from canvas leggings to officers' uniform cloth.

Such business, unprecedented in the last two decades, will put new tone in the mills' operation reports and new tone in the stockholders' holdings.

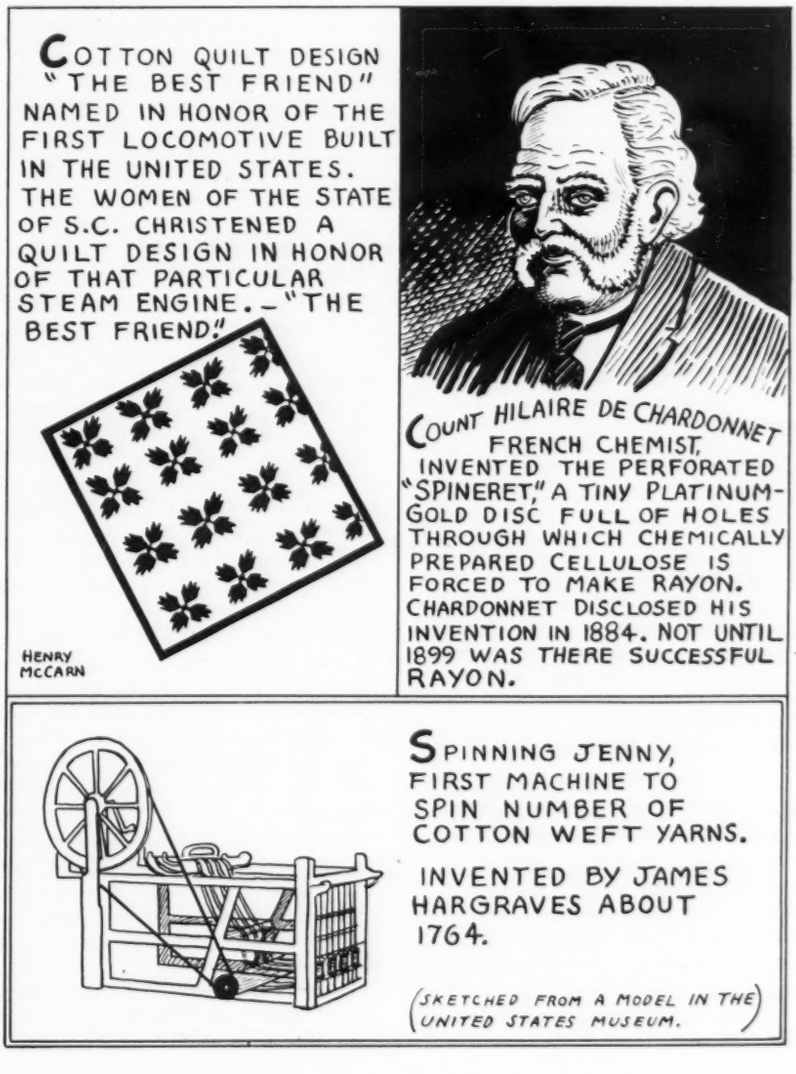
According to the U. S. Agricultural Marketing Service, activity at cotton-textile mills in the Carolinas increased further during early July due to the large number of national defense orders placed by the war department for clothing and equipage for the army.

The seasonally adjusted index of mill activity was 150 per cent of estimated normal for the week ending July 6 against 144 in the previous week and 120 a year ago. Mills' sales of cloth and yarn were considerably less than mill output during the last two weeks, but mills are said to have substantial backlogs of unfilled orders. Cloth and yarn prices held steady.

Finished cotton goods sales were fairly well maintained, and the Federal Reserve Board reported the dollar volume of department store sales as 7 per cent larger than for the same week a year ago. Retail prices increased slightly during June, according to the Fairchild Publications index which was 92.9 on July 1 against 92.8 on June 1 and 89.1 a year ago. Retail prices for the principal cotton-goods items in this index were unchanged from a month earlier. Seasonally adjusted indexes of industrial production decreased in early July but continued well above the July level for last season. Wholesale commodity prices sagged this week and security prices were down slightly.

Business everywhere in every line is better than it has been in a long, long time. Retail sales of department stores

TEXTILE HIGHLIGHTS, by Henry McCarn


COTTON QUILT DESIGN "THE BEST FRIEND" NAMED IN HONOR OF THE FIRST LOCOMOTIVE BUILT IN THE UNITED STATES. THE WOMEN OF THE STATE OF S.C. CHRISTENED A QUILT DESIGN IN HONOR OF THAT PARTICULAR STEAM ENGINE. - "THE BEST FRIEND."
HENRY McCARN
COUNT HILAIRE DE CHARDONNET FRENCH CHEMIST, INVENTED THE PERFORATED "SPINERET," A TINY PLATINUM-GOLD DISC FULL OF HOLES THROUGH WHICH CHEMICALLY PREPARED CELLULOSE IS FORCED TO MAKE RAYON. CHARDONNET DISCLOSED HIS INVENTION IN 1884. NOT UNTIL 1899 WAS THERE SUCCESSFUL RAYON.
SPINNING JENNY, FIRST MACHINE TO SPIN NUMBER OF COTTON WEFT YARNS.
INVENTED BY JAMES HARGRAVES ABOUT 1764.
(SKETCHED FROM A MODEL IN THE UNITED STATES MUSEUM.)

and other stores were over 2 per cent more than this time last year, and chain store sales are 8 per cent higher. A national income at nearly $6,000,000,000 per month compared to about $5,000,000,000 in 1939 tells its own story and there is no reason to feel anything but business optimism as far as textile mills are concerned.

The Export Situation for Textile Goods

In connection with the European situation, President Roosevelt on July 2 issued regulations governing exports of articles and materials. Licenses must be obtained before certain commodities may be exported. Under the present regulations the only items of interest to the textile industry are flax, silk, wool, and linters. Of course the object of this is in case of an emergency such items may be subjected to embargo through withdrawal of licenses issued to the exporters.

Other impacts on the exporting business due to the war include greater demand from South America, particularly the Argentine which is buying American cotton yarns in growing quantities. These are almost exclusively mercerized yarns, but the business developments in that section are sufficiently large to warrant a textile group exploring expedition. The Inter-American Development Commission has started plans by which a group from the textile industry will go to Latin America and perhaps South America to line up more co-operative trading between the textile interests of this country and consumers there.

Nicely timed with such plans was the announcement of a continuation of the export subsidy program which will begin this year by allowing 1 cent per pound subsidy exported cotton goods. This is hardly enough to count, but it is believed that this low figure was placed in order to continue the subsidy program as of course the rate can be adjusted upward or downward at the whim of the Secretary of Agriculture. Later on in the season if all is justifiable he may hoist this figure in order to capture completely the South American export market.

The Inequitable "Learner" Rules

Late in June The Cotton-Textile Institute and others representing the cotton textile industry appeared before Gustav Peck, assistant director of the hearings branch of the wage-hour division, in an effort to have certain revisions made concerning learners in the textile industry. The points concern two groups of learners: "new learners", or those who are entering the mill for the first time and wish to learn the simplest operation; and "experienced learners", or those who are already skilled workers in one line of mill work and who wish to prepare themselves for promotion and better pay. Dr. Murchison held that due to the confusing wording of the law it was difficult to obtain new learners and asked a new revision which would permit mills to employ new learners. This move was undertaken in a specific effort to help the young people of the mill villages who, having completed their high school education, are seeking employment in the mills but because of the peculiar construction placed by the wage-hour administration upon the word, "available", have been, so far, unable to procure employment. It seems particularly unfair that these young people should be forced to forego their rightful heritage—a job with a living wage. Naturally it was felt that unless some provision was made for experienced learners to gain more experience the wage-hour act, originally drawn up for a social betterment of mill employees, would become a very unsocial piece of legislation destroying any budding ambition in the hearts of textile employees who once learned one phase of operation would be forced to always adhere to that and that alone. At this writing nothing has been heard from the wage-hour administration on the above but it was hoped that this ably presented matter will be allowed in favor of the Institute's plea.

The Condition of the Cotton Crops

This time of the year every mill man is interested in cotton crop news. Growing conditions this year have been decidedly unfavorable to the crop, being too cool for good growth, too wet for cultivation in many places, and with strong possibilities of weevil activity. The 1940 cotton acreage left for harvest will be about 24,616,000 acres if abandonment this season is equal to the 10-year (1930-39) average. This would be the smallest acreage harvested since 1899 except 1938 and 1939. Total acreage planted for 1940 is well below that permissible under the agricultural conservation program but some farmers have planted acreage in excess of their allotments. The crop reporting board states that some farmers will undoubtedly remove excess acreage.

The 1940 Sea Island cotton acreage at 29,800 compares with 19,500 acres last season. This cotton is grown principally in Georgia and Florida but there are some plantings in a number of other states.

Indications from the Mississippi Delta, which grows the majority of the long staple in this country, are that the crop there will be the smallest harvested in many years, all evidences to date pointing toward an alarming shortage in long staples.

Although the situation in Europe and the Far East practically eliminates export possibilities for this year the domestic textile industry may, and probably will, consume between 7¾ million and 8 million bales for the year 1939-40. For the four year period beginning in August, 1936, we find that average annual consumption of cotton was 7.1 million bales whereas the average for the four years prior to that time was only 5.9 million bales and the average for the four pre-depression years, 1926-29, was 6.9 million bales.

Plans for Promotion and Research on Cotton

Considerable activity is being undertaken in efforts to regain markets for cotton through promotion and research work. The Cotton Research Congress met in Waco, Texas, June 30, for a three-day session and at that session the Texas legislature was asked for an annual fund of ¼ million dollars for specific research for new uses of cotton and its by-products. Legislatures of each of the cotton producing states were memorialized to set aside a like amount each year for a similar purpose.

The National Cotton Council will start a national advertising program in leading consumer magazines boosting cotton wearing apparel.

The Cotton-Textile Institute is taking another deep breath and trying to persuade its industry that $80,000 is not too much to turn over to the Institute for research and promotion. In a personal effort to put this program over, Dr. Murchison was to make a tour of the South, meeting with textile executives the last part of July and discussing the matter from every angle. This was to carry out resolutions adopted by the board of directors of the American Cotton Manufacturers Association and the board of directors of The Cotton-Textile Institute in late June. And so again we say it is a good idea—but it isn't enough, and we recall Fuller Callaway's New Orleans speech in which he asked for 1 per cent of every invoice from every mill to go into a perpetual fund for research and we again commend his suggestion as having real merit.

HERMAN MARTIN has been promoted from second hand to overseer of weaving at Scottdale (Ga.) Mills. J. W. BALENTINE is second hand.

WILEY BARKER has become overseer of the cloth room at Exposition Cotton Mills, Atlanta, Ga.

New Orleans, July 15, 1940

THE COTTON market was influenced mainly by liquidation in the July position, tenders having been larger than generally expected owing to the certificated stock having increased steadily, talk of mill curtailment, small exports of late, the uncertainties attending the war in Europe and the conflict in China. Nevertheless new crop options ruled relatively firm, and in the spot department values held comparatively steady, especially at Memphis where the bulk of business was transacted.

June Consumption Curtailed

As noted in census returns for the month of June domestic mill consumption decreased sharply compared with the offtake for May, amounting to 557,000 bales versus 636,000 in May this year and 578,000 for June of last year. Late press advices lend some encouragement in respect to the probability of better returns shortly.

Defense Agencies Buy Cotton Goods

New York, July 14: The heavy cotton goods division of the dry goods market was fast moving into a stronger position during the past week as a result of increasing purchases by the various industries and government buying for national defense.

Acreage Report

The Department of Agriculture estimated that 25,077,000 acres were in cotton cultivation on July 1, compared with 24,683,000 acres on the corresponding date last year. The department said the acreage left for harvest would be about 24,616,000 acres if abandonment this season is equal to the 10-year (1930-39) average. Last year 23,805,000 acres were picked.

Progress of the Growing Crop

For the week ended July 9, Washington's crop summary was: "In the cotton belt temperatures were abnormally low everywhere, with a continuation of frequent rains in central and eastern portions of the belt. In general, the weather was decidedly unfavorable, being too cool for good growth, too wet for cultivation in many places and favoring weevil activity."

COMMENT on the COTTON MARKET

Small Exports Expected if War Continues

While exports from the United States this season promise to be large, perhaps about 7,500,000 bales, they are expected to be much smaller next season if the European War continues, but domestic consumption will likely continue large, probably expand further, perhaps materially, since American mills are reaching out for South American and other foreign business, which, in a measure, would likely offset to some extent the expected loss in exports of the raw product.

Small Supply of Free Cotton

The New York Cotton Exchange Service estimates free stocks in the United States on August 1 next at 1,757,000 bales versus 2,087,000 last year. Such stocks include American mill stocks but exclude government owned and loan stocks. This feature and unfavorable crop accounts, coupled with the possibility, if not probability of a late movement of new crop cotton to market, points to what appears to be a strong position in the making so far as "free" cotton is concerned. The supply of such cotton usually exerts much influence on the course of the market at this period of the year, which is the closing of the old and approach of the new season.

The New Orleans Cotton Exchange will not issue an annual report on August 1 next because of war conditions making foreign figures unavailable. For the same reason world spinners' takings and world visible supply figures are omitted in this review.

CENSUS REPORT—JULY 13, 1940

United States Bales—	This Season	Last Season
Consumption of lint in Cotton Growing States, June	480,000	489,000
Consumption of lint in New England States, June	61,000	72,000
Consumption of lint in All Other States, June	16,000	17,000
Consumption of lint in United States, June	557,000	578,000
Consumption of lint in Cotton Growing States, 11 months	6,100,000	5,368,000
Consumption of lint in New England States, 11 months	847,000	796,000
Consumption of lint in All Other States, 11 months	201,000	173,000
Consumption of lint in United States, 11 months	7,148,000	6,337,000
Mill Stocks, June 30	1,160,000	1,020,000
Stock in public storage and at compresses, June 30	9,572,000	11,949,000
Stock in mills, public storage and at compresses, June 30	10,732,000	12,969,000
Stock in mills, public storage and at compresses, May 31	11,401,000	13,597,000
Active Spindles in Cotton Growing States during June	16,826,000	16,381,000
Active Spindles in New England States during June	4,512,000	4,762,000
Active Spindles in All Other States during June	604,000	628,000
Active Spindles in United States during June	21,942,000	21,771,000
Active Spindles in United States during May	22,217,000	21,971,000

WORLD PRODUCTION AND CONSUMPTION

The estimated world's production of commercial cotton, exclusive of linters, grown in 1939, as compiled from various sources, was 27,987,000 bales, counting American in running bales and foreign in bales of 478 pounds lint, while the consumption of cotton (exclusive of linters in the United States) for the year ending July 31, 1939, was 27,748,000 bales.

The total number of spinning cotton spindles, both active and idle, is about 145,000,000.

AMERICAN COTTON—CONSOLIDATED MOVEMENT

August 1 to July 12 Bales—	This Season	Last Season
Receipts at U. S. Ports	7,651,000	4,064,000
Exports to Great Britain	2,002,000	483,000
Exports to France	837,000	396,000
Exports to Continent	2,066,000	1,631,000
Exports to Central and South America	60,000	50,000
Exports to Orient	1,392,000	989,000
Total Exports from the United States	6,357,000	3,549,000
Stock in New Orleans, July 12	584,000	405,000
Stock at All United States Ports, July 12	2,458,000	1,921,000

New Textile Publications

Allis-Chalmers Mfg. Co., Milwaukee, Wis. Bulletin B-6105 on the recently extended line of multi-stage "SSUnit" pumps in which the motor and pump housings are bolted together for compactness.

Robert Gair Company, Inc., 155 East 44th St., New York City. "Sealing of Corrugated and Solid Fibre Containers" by J. D. Malcolmson. Second edition of 36-page illustrated booklet.

Solvay Sales Corporation, 40 Rector St., New York City. New 84-page technical and engineering service bulletin No. 8 "Alkalies and Chlorine in the Treatment of Municipal and Industrial Water."

J. M. Tull Metal & Supply Co., Atlanta, Ga. The 25th anniversary edition of the company's catalog on metals. Contains much information of interest to textile mill men on various types of metals and alloys.

Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. Technical Bulletin No. 557 describing the new Aerotex Resin 105, used in the finishing of cotton and rayon yard goods.

Chelsea Fan & Blower Co., Inc., 370 W. 15th St., New York City. Bulletin describing Wind-O-Fan, Jr., a portable fan for offices and homes, capable of delivering 3000 cubic feet of air per minute. 19-inch blade.

Benjamin Electric Mfg. Co., Des Plaines, Ill. New 46-page handbook and data bulletin on fluorescent lighting.

Stein, Hall & Company, Inc., 285 Madison Ave., New York City. New illustrated folder describing Hallmark burlap tubing, a new streamlined wrapping technique which saves time, money and material for packing and shipping departments.

Michel Export Company, Inc., 90 Broad St., New York City. Booklet describing Alframine DCA, a soapless soap.

American Cyanamid & Chemical Corp., 30 Rockefeller Plaza, New York City. Booklet descriptive of Aero brand Tetra Sodium Pyrophosphate and its applications.

Stephens-Adamson Mfg. Co., Aurora, Ill. Catalog on new Redler conveyor-elevator line. Containing 64 pages, including 20 pages of installation illustrations.

The DeVilbiss Co., Toledo, Ohio. Catalog of spray equipment for the dry cleaning, laundry and textile trades.

Buffalo Forge Co., Buffalo, N. Y. Bulletin on "Buf-flow" limit-load axial flow fans.

Moraine Products Division, General Motors Corp., Dayton, Ohio. Booklet containing new Durex bearing tool list, with information on designing for Durex self-oiling bearings.

Ashcroft Gauge Division, Manning, Maxwell & Moore, Inc., Bridgeport, Conn. New miniature pocket edition of the company's catalog.

The Permutit Company, 330 W. 42nd St., New York City. Bulletin No. 2345 descriptive of the company's dry chemical feeder of the oscillating type.

The Procter & Gamble Distributing Co., Cincinnati, Ohio. Informative booklet entitled "Fulling Facts", which is a discussion of fulling, the factors which control this process and the effect which the soap and alkali have on the finished fabric.

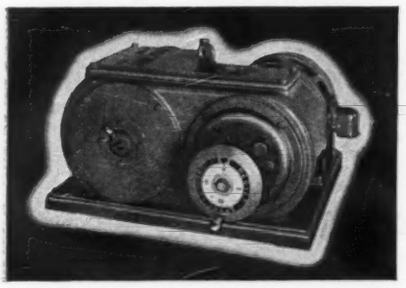
General Electric Co., Schenectady, N. Y. Bulletin describing Flamenol, the new synthetic-insulated wire with a single covering that serves the dual purpose of an insulation and a finish.

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Several pieces of informative literature. No. 36-200, a new 28-page illustrated booklet describing and listing a complete line of standard indoor bus supports for use on voltages of from 600 to 23,000 volts. Leaflet F-8537 on the Type FS polyphase squirrel-cage induction motors designed especially for constant speed applications requiring normal or high torque characteristics. Booklet F-8549 on Nofuze panelboards that provide automatic protection for lighting and power circuits in homes, buildings, and industrial plants. Catalog section 61-152 (from Department 7-N-20) describing Type FPR twin lamp fluorescent luminaire, designed especially for the illumination of low bay industrial areas. Descriptive data 3705 (from Department 7-N-20), a 4-page illustrated booklet describing Type CS squirrel cage induction motors, 250 hp. and larger, for industrial applications as combined or individual equipment drives. Descriptive data 33-700, 12-page booklet describing De-Ion Grid type "O" oil circuit breakers for indoor service for voltages from 15,000 to 34,000 and for interrupting capacities from 500,000 to 2,500,000 kva. Booklet A-3618 on fluorescent lighting, a practical guide to the application of Mazda F lamps and equipment. Booklet B-2243 covering the entire line of air and compressed air circuit breakers.

NEW EQUIPMENT and MATERIALS

"Speedial" Handwheel

An improved type of handwheel-speed indicator for use with the company's variable speed transmission, vari-speed motor pulley and motodrive is announced by Reeves Pulley Co.,



Columbus, Ind. Known as the "Speedial", it accurately indicates speed settings of the different units. The actual indication is a definite number of turns of the speed shifting screw of the unit. For each full turn of the shifting screw, the Speedial, with indicator pointer attached, registers one point or degree on the circular scale.

◆

New Circuit Breakers

A new line of type AB general utility circuit breakers for enclosure, panelboard or switchboard mounting has been developed by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Rated 50, 70, 90 and 100 amperes at 250 and 600 volts ac 2 and 3 pole, and 125, 250 volts dc, these breakers are especially adaptable to lighting and feeder circuits, and motor branch circuit protection, it is pointed out.

◆

New AC Welder

A new all-purpose portable ac welder has been announced by the Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Standard models operate on either 220 or 440 volts, and are completely self-contained. From 20 to 250 amperes of welding current is available in 27 current steps. Current adjustment is secured by selecting the current desired and inserting the bayonet plugs in the proper receptacles. A built-in "De-Ion" breaker insures protection against long sustained overloads. Open circuit and striking voltages are exceptionally low, being on the order of 80 volts at 20 amperes, and ranging down to 50 volts at the highest current rating.

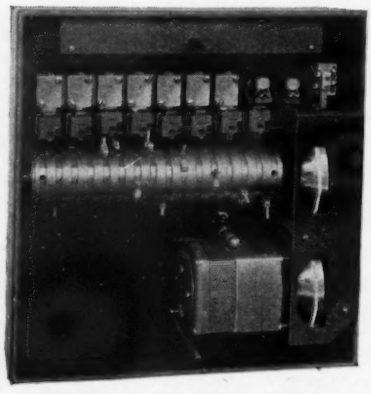
Longer Stainless Steel Reels

Rodney Hunt Machine Co., Orange, Mass., have announced a new, patented "pipe body" construction on its line of stainless steel reels for textile machinery, providing increased strength where most needed. The new feature has made it possible to build and equip larger dyeing machines than heretofore were possible without the necessity of middle bearings on the reel. An example is a recent installation of a 20-foot stainless steel reel without a middle bearing.

◆

New Flex-O-Timer

Taylor Instrument Companies, Rochester, N. Y., have announced the development of the new Taylor Flex-O-Timer, to provide, in all-electric, all-pneumatic operations, or combinations of both, precise timing of the sequence and duration of operations involving temperature, pressure, humidity or



combinations of these. Package dyeing machines offer a unique application for this new device, where it automatically maintains the proper sequence and duration in reversing the flow of liquor through the machine.

Adjustable pins on the revolving drum provide extreme flexibility. Cam cutting is eliminated and the actuating pins are easily and precisely adjusted. A new latch-trip solenoid-operated mechanism starts the process instantaneously, actuating one or more snap operators to start the timer motor which is of the high torque, fan-cooled synchronous type, and any outside electrical or pneumatic functions to be performed simultaneously at the start of the cycle.

Where the diversity of the products being processed requires considerable variation in processing time, the Flex-O-Timer offers a varying drum speed rotation. The drum is directly run by a spur gear train, but a unique dog-and-latch mechanism provides 78 different drum speeds with each gear train ratio. Yet the drum speed is fixed and positive for any given setting. A new type low leak air valve utilizes 99½ per cent of the air passed through it.

◆

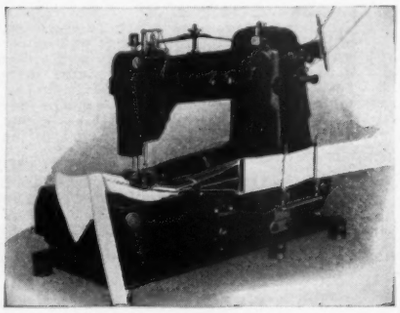
Electronic Pyrometer Controller

The Bristol Company, Waterbury, Conn., has introduced a new electronic pyrometer controller that is said to eliminate moving parts in the control circuit. The pointer of the millivoltmeter movement is not engaged or retarded at any point within its normal operating range, thereby leaving it free to indicate continuously the temperature under control. This measuring unit is equipped with a cold-end compensator, which is said to insure high accuracy. Control is accomplished by means of a new electronic circuit, using a single high-output vacuum tube of all metal. A milliammeter on the front of the instrument indicates the condition of the control circuit at all times. The entire operating mechanism of the relay is totally enclosed in a vacuum.

◆

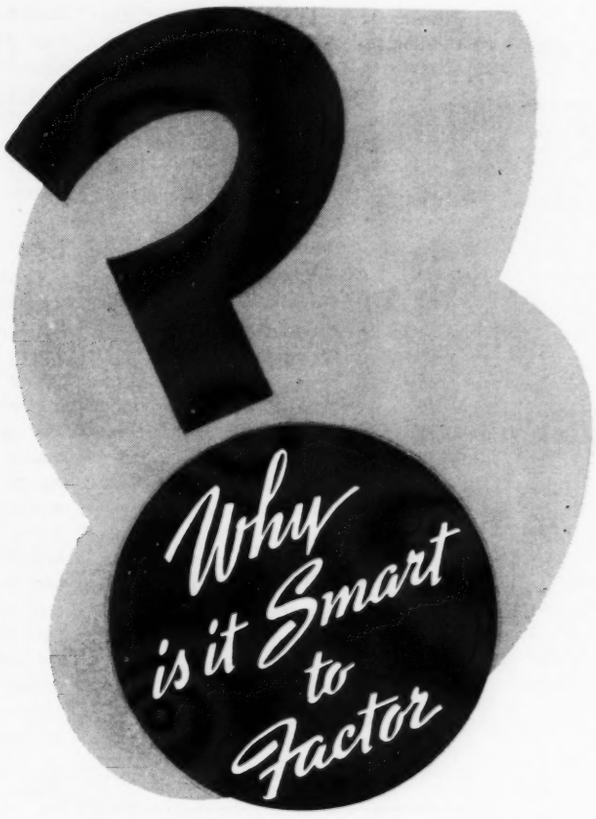
New Top-Roller Feed Machine by Union Special

Union Special Machine Company, Chicago, Ill., have announced a new top-roller feed machine for use on sleeve placket and button stay operations on shirts and knit undergarments. It is designated as Style 51200 JZ, and is one of the company's Fifty-Thousand Series machines, producing double locked stitch type 401. The new top roller feed on the new machine permits attaching of sleeve plackets and button stays absolutely straight.



—for attaching sleeve plackets

The machine for attaching woven button stays to knit undergarments is equipped with differential feed in addition to the top roller feed; this combination eliminates any tendency of the button stay to curl.



Because by Factoring, your sales are converted into cash. This enables you to eliminate credit losses—reduce collection expense—earn cash and trade discounts—meet payrolls and taxes—obtain money for raw materials—and purchase at savings. You obtain all of these benefits while observing your present credit terms with your customers.

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AGGREGATE RESOURCES OVER SIXTY MILLION DOLLARS

New Grease Gun

Alemite Division of Stewart-Warner Corporation, Chicago, Ill., has made available a new low pressure volume delivery foot gun, Model 6697-A, de-

signed to be used for lubricating many forms of industrial equipment. It is manually operated. The gun has a capacity of 25 pounds and pumps approximately one cubic inch of grease per stroke. It comes equipped with a 7-foot hose and delivers one ounce of lubricant to every three strokes.

◆

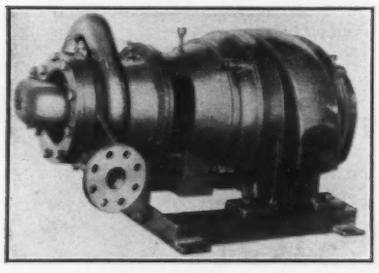
Germicidal Lamp by GE

General Electric Company's Lamp Department, Nela Park, Cleveland, Ohio, has developed a yard-long 30-watt germicidal "lamp", a clear glass tube 1-inch in diameter, designed to kill air-borne bacteria. It is said to be more than twice as effective in killing germs as the 18-inch 15-watt size made by the company and costs less than one-half again as much. It requires but one transformer whereas 36 inches of the 15-watt size require two 18-inch lengths and two auxiliaries.

◆

Allis-Chalmers Extends Line of Multi-Stage Unit Pumps

Allis-Chalmers Manufacturing Company, Milwaukee, Wis., has recently extended its line of multi-stage SSUnit pumps in which the motor and pump housings are bolted together for com-



pactness. This includes a new two-stage pump with 4-inch suction and 2-inch discharge that can be rated up to 275 gallons per minute against heads up to 500 feet at a speed of 3,550 r.p.m. The new pump has cast iron casing and cover and is bronze fitted throughout. Impellers are placed back to back to provide axial balance. The cover can be readily taken off, permitting the inside parts to be removed without disconnecting the suction and discharge piping. The stuffing box on the pump is only subjected to suction pressure. The unit can be furnished with either an open, splash-proof, totally enclosed or explosion-proof motor.

◆

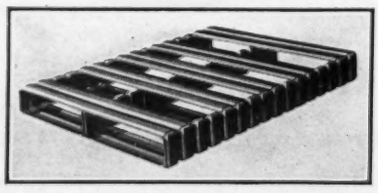
Neutral Low Viscosity Oil for Full-Fashioned Knitting

National Oil Products Company, Harrison, N. J., has announced a new neutral oil of low viscosity especially prepared for the treatment of Bemberg and other synthetic yarns for full-fashioned knitting. Trade-named Nopco 1556-x, it is said to impart added softness and lubrication to these yarns. The new oil is highly resistant to oxidation and rancidity, and it may be applied without additional preparation.

◆

Lightweight Steel Pallet

Union Metal Manufacturing Company, Canton, Ohio, has developed a new and unique type of lightweight steel pallet for use with fork lift trucks and hand pallet trucks, which



is said to have exceptional strength and rigidity. The pallet is 5¼-inches overall in height, with a 4-inch clearance between deck and bottom. Length and width can be varied to meet requirements. It can also be furnished with a solid deck and/or bottom, merely by adding more cross members.

◆

Resinous Emulsions

E. I. du Pont de Nemours & Co., Inc., R. & H. Chemical Department, Wilmington, Del., has made available a new group of resinous emulsions, the polyvinyl acetates, both in solid form and in solution, and covering a wide viscosity range. Applications for textiles are as sizes and stiffeners. These emulsions are said to have excellent stability, lack of color and high solids content, being described as free-flowing fluids, milk white in color, stable to dilute acids and alkalies, and containing approximately 60 per cent solid polyvinyl acetate resin finely dispersed in water. They dry to hard, thermoplastic, heat-sealing colorless films.

◆

Process for Silica Removal

W. H. & L. D. Betz, Philadelphia, Pa., have developed an adsorption process for silica removal, which utilizes Remosil (a specially prepared magnesium oxide), and which is said to reduce soluble silica in any natural water to a fractional part per million while actually reducing rather than increasing the total solids in the water. Removal is effected in the hot process softeners.

◆

New Calco Resin Finish

Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J., has announced Aerotex Resin 105, which is said to offer substantial economies and improvement in the finishing of cotton and rayon yard goods. The application of this new sizing requires no change in present finishing equipment. Aerotex 105 is a milky white liquid, completely dispersable in water at room temperature, and is miscible with all other finishing gums and softeners. It requires no cooking but may be introduced directly into the pad box. All that is required to set the resin is tenter heat at 250 degrees F. Yard goods so treated are said to retain their resilient finish after repeated commercial launderings.

◆

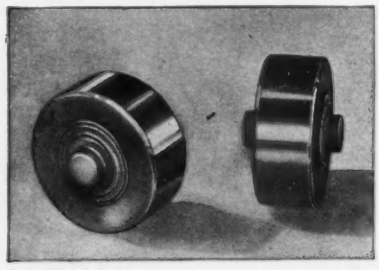
New Push Button Stations

General Electric Company, Schenectady, N. Y., has announced a new line of general purpose one- and two-button standard-duty push-button stations, with ⅞-inch molded buttons slightly concave for convenience. They are protected from accidental operation by guard rings. The new stations are 4⅞ inches high, 2⅝ inches wide, and 2½ inches deep, with ample wiring space.

◆

New Treadle Roll for Looms

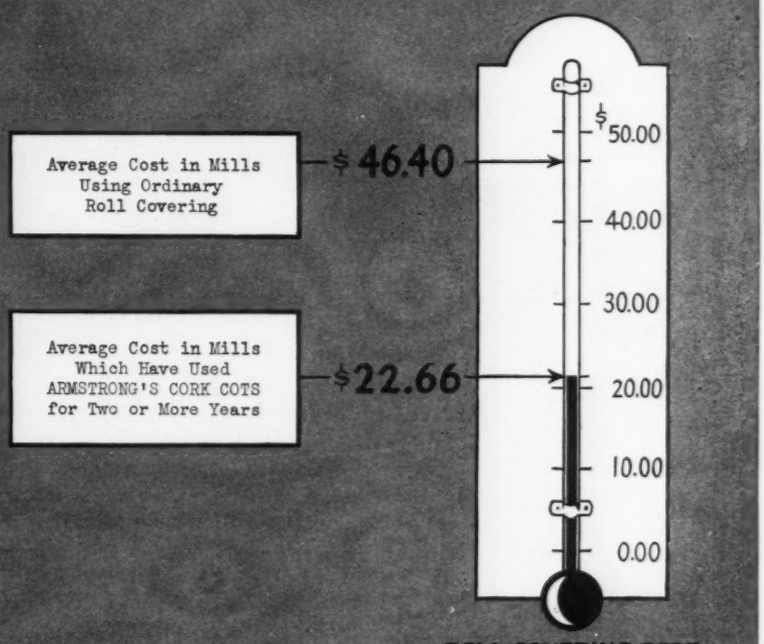
A special treadle roll ball bearing has been developed by New Departure Division, General Motors Corp., Bristol, Conn., to provide longer life and reduce the tendency of treadle rolls to jam with lint, and damage the cams. The new treadle roll bearing is made of high carbon chrome alloy steel, com-



pletely protected from dirt or lint and fully lubricated for long life. It is easy rolling, cannot rub at the sides of the treadle arm, and its hard, smoothly finished surfaces do not become clogged with lint and dirt, it is pointed out.

WHY MILLS TURN TO *Cork* FOR ECONOMY

HERE'S PROOF—from Mills Spinning *Coarse Numbers*—of the Economy of Armstrong's Cork Cots. (This advertisement is Number Four of a series showing savings of mills spinning different ranges of numbers on cork cots.)



AVERAGE SAVING $23.74

And here's a breakdown of actual roll covering costs as reported by representative mills which have been using Seamless Cork Cots for two or more years:

Mill	No. of Spindles	Numbers Spun	Cost per Million Spindle Hours of Operation	Type Frames
A	63M	4s - 15s	$27.05	Long Draft
B	40M	8s - 16s	20.47	Long Draft
C	43M	8s - 14s	20.26	Long Draft

CONSIDER these figures . . . and the convincing story they tell about the money-saving advantages of Armstrong Cork Cots. Take wear for example. These cots last longer than ordinary roll coverings; furthermore you can rebuff them—at a cost of about ½¢ a roll—three or four times!

Then consider the many other advantages these figures don't show. You can produce *better yarn* with these efficient roll coverings. Their higher coefficient of friction assures a stronger, more uniform product; better running work; less eyebrowing and end breakage. Finally, you get less clearer waste and fewer top roll laps when you use Armstrong Cork Cots.

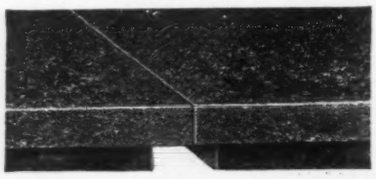
It's simple and inexpensive to change over to these cork cots. Their initial cost is on a par with that for other roll coverings, and they're quicker and cheaper to assemble. An Armstrong representative will be glad to show you production figures and savings of mills spinning your range of numbers on cork. Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch Street Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

New Roof Insulation to Prevent Blisters—Buckling

A new type of roof insulation, especially designed to withstand the moisture conditions which reduce or destroy the effectiveness of insulation, has been announced by The Celotex Corp., 919 North Michigan Ave., Chicago, Ill. Channels in the insulation are designed to eliminate roof blisters

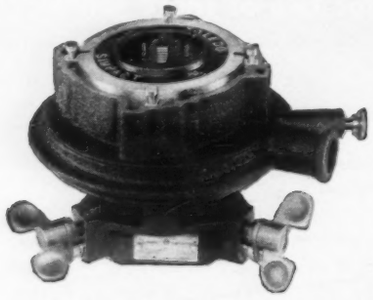


and buckling caused by air expansion within the insulation. The channels serve as expansion chambers which relieve air pressure against the roof covering and also relieve accumulations of vapor pressure built up by high humidities and temperatures. The channels are obtained by fabricating the insulation units with offset edges on the lower sections, so that when the tops of the two edges are butted together a channel is formed along the under side of the joint.

◆

Ratchet Threader

Toledo Pipe Threading Machine Co., Toledo, Ohio, have announced a new self-contained 1- to 2-inch ratchet threader. It uses high speed steel



dies, which are readily changed by pushing a size selector button and slipping the dies in the proper steps. A 3-jaw rear gripping device is employed, equipped with three broad faced chuck jaws, graduated guide posts, and large winghead thumb screws.

◆

New Lock Nut

An-cor-lox Division of Laminated Shim Company, Inc., 64 Union St., Glenbrook, Conn., has designed a new self-contained, one-piece, all-metal lock nut which utilizes a new locking principle of locking of the nut to the bolt. The nut is simply spun on the bolt and drawn up to the desired degree of tightness and the nut locks itself automatically to the bolt. The arcuate-shaped metal locking ring contained in the bottom of the nut is expanded by the locking pressure into the root of the bolt thread and against the nut rim. This lock joint is said to hold securely under all heat conditions and vibration. No special length of bolt is required. The lock nuts are available in all standard sizes and in all metals.

◆

New Direct Colors

Phoenix Color & Chemical Co., Inc., 24 Van Houten St., Paterson, N. J., have developed three new direct dyestuffs. Benzaphen Violet BCW leaves Celanese pure white, making it suitable for dyeing rayon and acetate combination cloth. It has good dischargeability, wash, light, acid and alkali fastness, but is slightly sensitive to hot ironing, the original shade returning on cooling. It can also be used in the padder.

Benzaphen Bordeaux BCW also leaves Celanese very white and is recommended for dyeing rayon and acetate combination cloth. Solubility, penetration and leveling properties are excellent.

Phenaldehyde Blue Green B is a bright blue green which is rendered fast to washing on formaldehyde aftertreatment.

◆

Industrial Fluorescent Lamp Luminaires

A new open end twinlamp fluorescent luminaire, utilizing 40-watt, 48-inch Mazda Type F white or daylight fluorescent lamps, and designed especially for general or supplementary lighting of low bay industrial areas, has been announced by the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa. It consists of a hood, reflector, lamp holders, starting device, and ballast equipment. The hood is fabricated sheet steel and carries the hinged porcelain enameled steel reflector which provides high overall efficiency with a light cut-off of 72½ degrees from the vertical. A high power factor of 95 to 99 per cent is provided with two-lamp ballast with starting compensator.

◆

Tilting Box Grab and Tramrail Carrier

The Cleveland Tramrail Division of The Cleveland Crane & Engineering Company, Wickliffe, Ohio, has developed a new tilting box grab and tramrail carrier that picks boxes up, sets them down, or empties them by tilting; all operations being manipulated by means of controllers in the cab. The equipment consists of a cab-operated tramrail motor-driven carrier with two independent hoisting units and motorized grab. The hoisting units make it possible to raise or lower boxes as desired and empty them as fast or as slowly as may be required. Units are available to handle from 3- to 5-tons capacity.

◆

Safety Contest

An executive of a large company told about their interdepartmental safety contest. It was based on reduction of minor injuries because they felt that minor injuries resulted from the same causes as serious injuries.

I told this man that I thought such a contest might encourage men to stay away from the first aid room in order to help the department show a reduction in minor injuries. His reply to me was, "We anticipated that and in the rules of the contest we penalized the foreman 20 points for every unreported minor injury discovered. You'll be surprised to know," he added, "that since this contest has been going on the number of minor injuries reported at first aid hospitals in our plant has almost doubled."

What do you think about such a contest? How do you impress on your workers the importance of prompt first aid for all injuries no matter how slight? — "*Management Information*", *Elliott Service Co., Inc.*

◆

Unfulfilled Promise

A broken promise brought a man to me the other day with the complaint that his supervisor had not kept his word. The man's story was that his boss had promised him a promotion which he had given to some one else.

When I talked to the supervisor he told me that he had promised to consider the man for promotion when a certain job was open. He had considered him, but decided another man was better qualified. This case illustrated once more how careful a supervisor must be to have a complete understanding with each of his men. It's so easy for a man to read into a promise much more than is intended. A half-promise is invariably interpreted as a definite promise. When making a promise always be sure to outline fully the conditions under which it will be fulfilled. Furthermore, if you can't clearly foresee all the circumstances which will prevail when the time for keeping the promise arrives, perhaps it is better not to make it at all. Don't make promises unless you control the factors which will determine whether or not it can be carried out. — "*Management Information*", *Elliott Service Co., Inc.*

◆

Cooperate on Safety

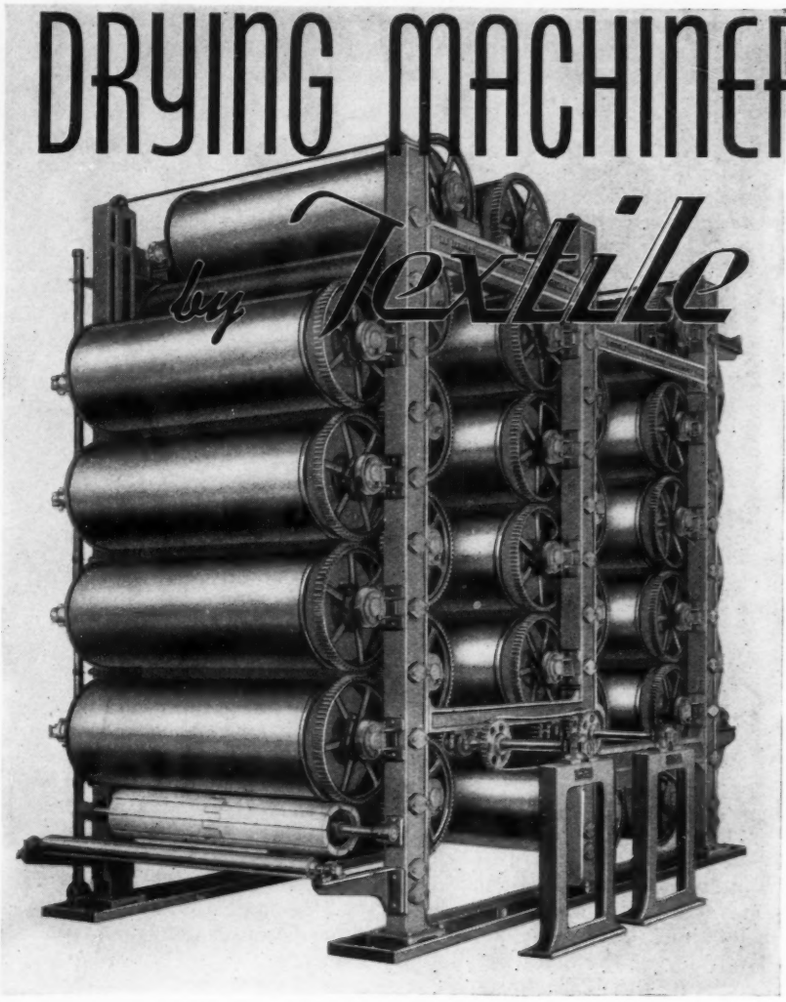
There is no better way that I know of to begin the development of cooperative relationships with men under you than to start out by getting them to cooperate on safety.

There is nothing controversial about accident prevention work. It is more in the interest of employees than anyone else. Getting them interested in preventing accidents to themselves, therefore, should furnish a logical starting point for cooperation.

Show them that you are sincerely interested in their safety, and it is only natural for them to be more easily interested in the results you are responsible for achieving. — "*Management Information*", *Elliott Service Co., Inc.*

Modernized!

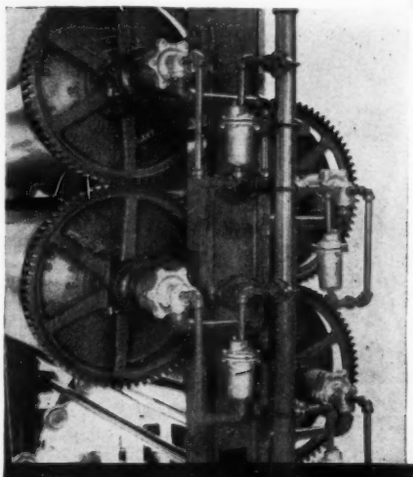
CYLINDER DRYING MACHINERY



• The latest developments and improvements in design on Cylinder Drying Equipment are shown on the machine illustrated. Particular attention is called to the fact that the new features incorporated into the construction of Textile's Modernized Drying Equipment are all in accordance with expansion and re-vamping programs of many outstanding Southern and Eastern Finishing Plants.

Close-up view below

showing Drying Cylinders equipped with Textile's Self Aligning Roller Bearing Housings and other features including individual Syphons, Johnson Joints, Traps and Strainers controlling the removal of condensate. Traps furnished according to the preference or requirements of the mill.



• Cylinders offered consist of Sheet Copper with single brazed seams, rolled and planished to a hard, smooth surface — Seamless Drawn Copper Tube construction — Special Fabricated Stainless Steel with single welded precision ground seams — Standard Tinned Iron.

• Textile's Drying Equipment includes Upright and Horizontal Designs, built with any required number of cylinders, face dimensions up to 150 inches.

ADDRESS ALL INQUIRIES TO DEPT. C

The Textile Finishing Machinery Co.

New York Office
50 Church St.

Southern Office
Johnston Bldg., Charlotte, N. C.

Providence, R. I.

TIMELY NEWS ITEMS with a TEXTILE SLANT

J. L. Sturges has been appointed southern district manager of mechanical goods sales for The Goodyear Tire & Rubber Company, with headquarters at the company's Atlanta office. He succeeds E. A. Filley, who resigned to become general manager of The Manufacturers Rubber Supply Company, the Goodyear mechanical rubber goods distributor for the Akron area. Mr. Sturges formerly was salesman for the company at Jacksonville, Fla., and has been with Goodyear for 10 years.

Mr. Sturges

Emmons Loom Harness Co., Lawrence, Mass., has increased the number of its southern representatives. Clifton E. Watson, manager of southern sales, is located at Charlotte, N. C. Henry E. Littlejohn of the Piedmont Reed & Sales Company, Greenville, S. C., represents the company in South Carolina on all products manufactured except reeds. Arthur W. Harris of the Harris Mfg. Co., Atlanta, Ga., serves in the same capacity in Alabama, Georgia, Louisiana and Mississippi. Mr. Watson, manager of southern sales, represents Emmons in North Carolina, Virginia, West Virginia and Tennessee, and William L. Braley of the Southwest Supply Company, Box 236, Itasca, Tex., covers Texas and Oklahoma on Emmons' products.

Ashcroft Gauge Division is the new name of the division that formerly was Ashcroft American Gauge Division of Manning, Maxwell & Moore, Inc., Bridgeport, Conn.

Charles H. Campbell, formerly general sales manager of Sonoco Products Company, Hartsville, S. C., has been elected a director and vice-president in charge of sales of Sonoco. He has been connected with the company for more than 20 years.

A. E. Forester has been appointed assistant general manager of the Naval Stores Department of Hercules Powder Company, Inc., Wilmington, Del. Mr. Forester joined Hercules in 1925. He was promoted to assistant general manager from the position of manager of the service division of the explosives department.

Frank G. Boye has been designated as manager of the storage department as well as general manager of the yarn division of the United States Testing Company, Hoboken, N. J. He has been associated with the company for more than 20 years.

S. C. Mayne, Jr., has been transferred to assistant manager of the United States Testing Company's southern testing house at 1200 Arlington St., Greensboro, N. C., under S. J. Gillie, manager. Mr. Mayne, originally from Georgia, has been in the main Hoboken laboratories of the testing company since his graduation from Clemson College as textile engineer.

Miss Gowdy and Stark Join Impregnole Corp.

Miss Nannene Gowdy and Edward Stark have joined the staff of Impregnole Corp., 580 Fifth Ave., New York City. Miss Gowdy will act as technical advisor for the company's products, including water-repellents and permanent fabric finishes and antiseptic finishes. She was previously head of the New York laboratories of Montgomery, Ward & Co., and later director of the bureau of standards of Montgomery, Ward in Chicago. She brings to her new connection an experience in fabric finishes that began many years ago in the University of Chicago where she graduated with a Master of Science degree, and later rounded out in her experience with Montgomery, Ward.

Mr. Stark will be one of the sales representatives in rain, sports, and snow togs and street wear for Impregnole products. The plant of the company is located at West Warwick, R. I.

◆

Emery Names E. W. Reese as General Sales Manager

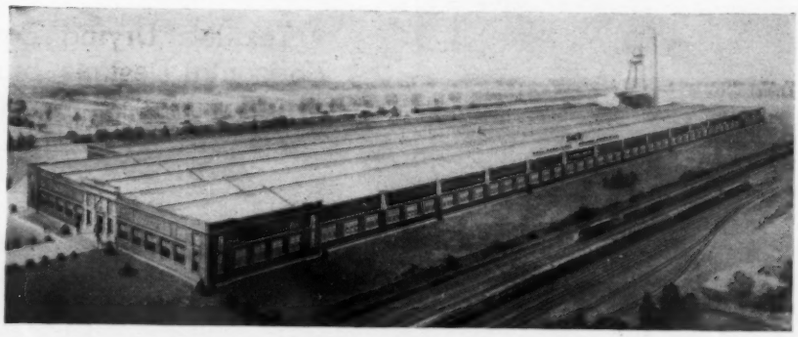
E. W. Reese has been appointed general sales manager of Emery Industries, Inc., Cincinnati, Ohio, succeeding K. L. Schanbacher, resigned. Mr. Reese has been affiliated with the manufacturing and sales departments of the company for the past 16 years.

◆

High Demand for Rayon Continues

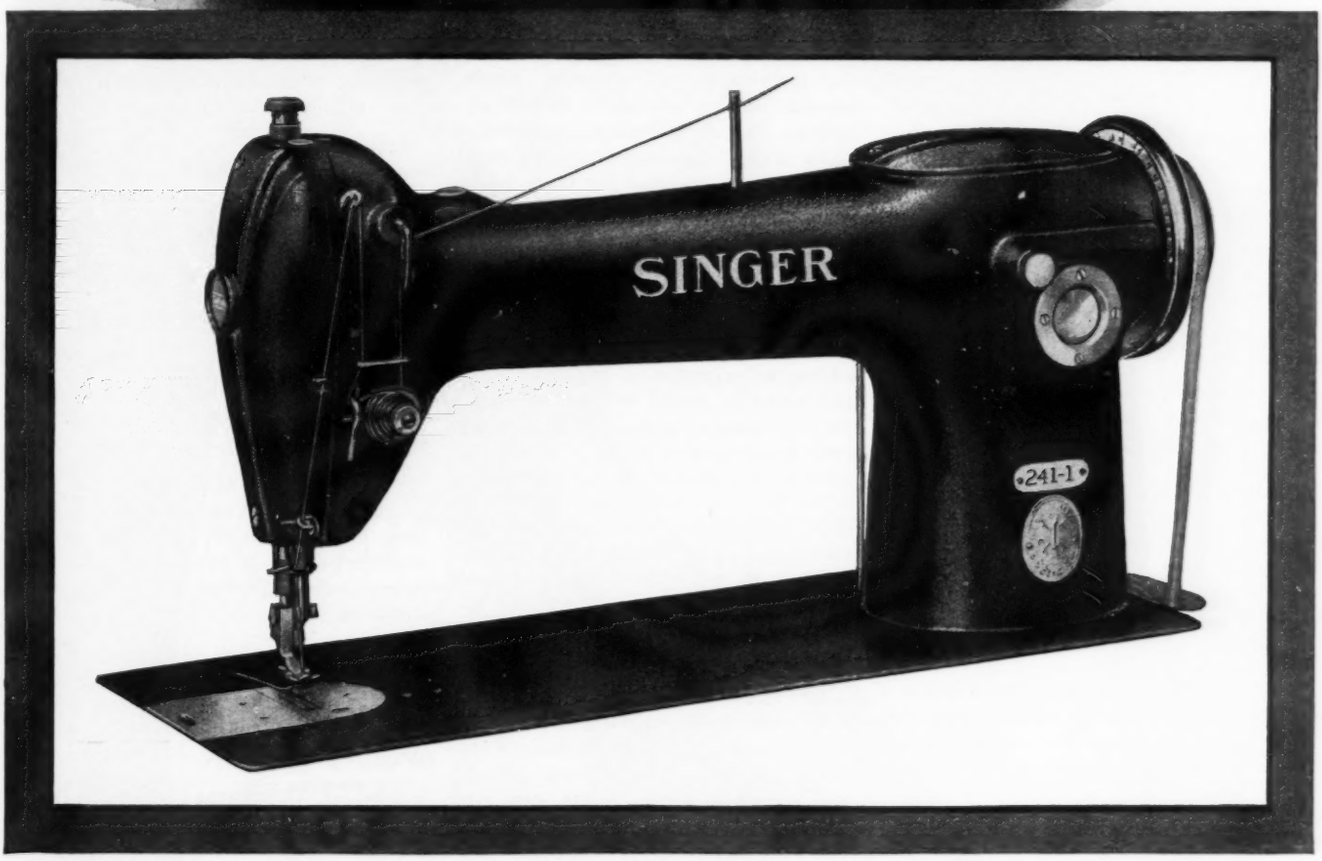
The steady demand for rayon filament yarn, which has prevailed in the industry during the first half of 1940, has kept the industry operating essentially at capacity based upon present deniers of yarn being spun, states the July issue of the *Rayon Organon*, published by the Textile Economics Bureau, Inc. Cumulative rayon yarn deliveries for the first half of the year aggregated 184,000,000 pounds; compared with deliveries of 162,700,000 pounds for the corresponding period of 1939, an increase of 13 per cent.

For June 1940 deliveries to domestic consumers aggregated 31,100,000 pounds against 31,900,000 pounds delivered in May and 33,000,000 pounds delivered in June 1939.



The No. 2 plant that will materially increase the capacity of SKF Industries, Inc., Philadelphia, in the production of more than 6,000 types and sizes of ball and roller bearings. The new building contains 226,000 square feet of floor space on a plot of 15 acres of beautifully landscaped lawns, and will be devoted exclusively to the manufacture of anti-friction bearings.

Automatically Lubricated SINGER CLASS 241



...WITH THE OUTSTANDING SINGER FEATURE *"SUPERFINISHED" BEARINGS*

You do away with the necessity of hand oiling when you equip your plant with the Singer Class 241, because this revolutionary new machine is automatically lubricated by a forced feed system much like that used in automobiles.

Higher speeds, job for job, are maintained by the Singer Class 241 than any previous single-needle lock stitch machine. Another important improvement, "superfinished" bearings, permit the arm shaft to revolve on a film of oil and eliminate metal-to-metal friction. The 241 will pay for itself in your plant through increased production and lower maintenance costs.

Mail the coupon today for a free illustrated folder, fully describing the class 241 and how it will help increase efficiency in your plant.

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Patents Issued to Carolinians

According to Paul B. Eaton, patent attorney, Charlotte, N. C., the following patents have recently been issued:

John A. Talbert and Maurice Hendrick, of Cliffside, N. C., were awarded a patent on a pattern mechanism for dobby looms whereby a great number of patterns can be obtained from a very small length of chain. It has means for advancing the pattern chain two bars at a time for each pick of the loom for a predetermined number of picks, together with other means for reversing the travel of the pattern chain a predetermined number of bars and then for again advancing the pattern chain to cause alternate bars which were not used in the first advance of the chain to exercise control over the loom.

Oscar C. Wilson, Lexington, N. C., secured a patent on a fancy yarn attachment for spinning frames, whereby uneven movement of the rolls is produced, making a fancy or himalaya yarn on the spinning frame.

◆

Viscose Company Now Makes Acetate Staple Fiber

With the addition of "Seraceta Fibro" to the range of rayon products of American Viscose Corporation, it has been made known that this company now is in commercial production of acetate staple fiber. The new acetate staple number takes its name jointly from two brand names which have won leadership in the Crown Rayon line. These are: "Seraceta", the company's continuous filament acetate yarn, and "Fibro", the staple fiber hitherto available in this country only in viscose process.

It is understood that production of "Seraceta Fibro" is limited at present, and that it will be increased as demand requires. The new acetate staple number has been added to balance the line and to give Crown rayon full representation in this growing field.

◆

Bibb Moves N. Y. Office

Bibb Manufacturing Company, Macon, Ga., have announced the removal of their New York Office to 2 Park Avenue, Suite 2110.

◆

Medart Buys Reeves Wood Pulley Stock

The Medart Company, St. Louis, Mo., has purchased the entire wood pulley stock of the Reeves Pulley Company, and all good-will pertaining thereto. The Reeves company has discontinued manufacturing and marketing of wood split pulleys, and Medart will continue to serve all of the wood pulley dealers and customers of Reeves as well as Medart dealers.

Elmer F. Smith Wins the Atlas Ometer Golf Trophy

Elmer F. Smith, manager of the Chicago office of American Aniline Products, Inc., won the Atlas Ometer Trophy at the annual outing of the Midwest section of the American Association of Textile Chemists and Colorists, at Lake Lawn, Delavan, Wis., in June. The cup, donated by Atlas Electric Devices Company, must be won three times for permanent possession.

What the Southern Mills Are Doing

Marshall Field & Co., manufacturing division, Spray, N. C., have purchased an installation of Fletcher rayon twisters and an automatic 40-inch extractor, and a "Hurricane" automatic skein dryer. This equipment, of modern type and designed for large packages and high speeds, will be installed in the company's new throwing department. The equipment was purchased from F. W. Warrington Company, Charlotte, N. C.

Erwin Cotton Mills Company are adding an extension to the boiler room of Plants No. 1 and No. 4 at Durham, N. C. Boiler replacements costing over $100,000, will be made in the extension, which will be approximately 55x55 feet, with brick walls, steel sash, steel framing, concrete floors, wooden roof decking and 20-year tar and gravel roof. J. E. Sirrine & Company, Greenville, S. C., are the consulting and designing engineers.

January & Wood Company, manufacturers of carpet warp, seine twine, etc., are constructing at their Maysville (Ky.) Cotton Mills a two-story warehouse, 102x102 feet, to have concrete and brick walls, steel beams, steel pipe columns, steel sash and roll-up steel doors. Fiske-Carter Construction Company, Greenville, S. C., are the contractors. J. E. Sirrine & Company, Greenville, are the engineers.

Patterson Mills Co., Roanoke Rapids, N. C., are re-roofing the weave shed. C. M. Guest & Sons, Anderson, S. C., are the contractors, and J. E. Sirrine & Company, Greenville, S. C., are the engineers. The work includes the removal of all existing sawtooth-type roof from column caps up, and replacement with new monitor type, 2-inch cork insulation, and 20-year tar and gravel roofing.

The Trion (Ga.) Company is modernizing its power plant and installing automatic coal handling equipment, a coal silo, control and recording instruments, as well as making necessary building alterations. J. E. Sirrine & Company, Greenville, S. C., are the engineers.

Lavonia Mfg. Company, Lavonia, Ga., manufacturers of colored and novelty yarns, is modernizing the plant with the installation of single process picking, long draft in carding and spinning and new winding machinery.

Bibb Manufacturing Company, with headquarters in Macon, Ga., and plants in several Georgia cities, announced on July 1 plans for a modernization program at their plants in Macon, Columbus, and Porterdale to cost $2,250,000.

Springs Cotton Mills announce plans for the installation of machinery in their plant at Fort Mill, S. C., which will bring the plant to a total of 104,000 spindles, second in size to the Lancaster (S.C.) plant of the company.

Cleveland Cloth Mills, Shelby, N. C., manufacturers of rayon dress goods, have expanded their facilities by the construction of a $30,000 addition to house cloth inspection and warehouse facilities.

The J. W. Sanders Cotton Mill plant at McComb, Miss., is being modernized by the installation of new long draft roving frames, furnished by H. & B. American Machine Co.

Duchess Throwing Company, a branch of Burlington Mills, Inc., at Statesville, N. C., is installing machinery in the building formerly occupied by Duchess Fabrics Corp.

Watts Mill, Laurens, S. C., are making an addition to the new sewerage system now under construction in the mill village. J. E. Sirrine & Company are the engineers.

Oakdale Cotton Mills, Jamestown, N. C., has installed new preparatory equipment including a Whitin Spirawhirl opening machine.

Cascade Rayon Mills, Mooresville, N. C., have constructed an addition for the enlargement of the preparatory, weaving and cloth departments.

Oconee Mills, Inc., Westminster, S. C., are constructing an addition to house a weaving unit for the manufacture of cotton blankets.

Travora Mfg. Co., Graham, N. C., has increased its finishing department by construction of a 56x78 foot addition.

Rebuffing Costs Eliminated on Cots.....

When a roller covering has to be rebuffed it is an acknowledgment that the material with which the roller is covered is non-resistant TO WEAR and therefore has to be continually rebuffed.

The covering that will keep on the job spinning perfect yarn until the covering becomes absolutely worn through, is the most economical to you.

GILL LEATHER

with its 100 years and more background, is the only roller covering that will give you this continued uninterrupted service at an initial savings in cost of 40 per cent or more and a continual life of double and more of any other covering.

Practically every mill that has experimented (at a great loss) with substitutes has invariably returned to standardize on this proved, economical, highly satisfactory covering.

Be smart and profit by the experience of others.

Write for interesting facts on "Roller Coverings". It's free.

GILL LEATHER COMPANY

(With Over a Century of Background and Experience Behind It)

SALEM, MASS.

DISTRICT OFFICES

Griffin, Ga., B. C. Plowden — Greenville, S. C., Ralph Gossett
Gastonia, N. C., W. G. Hamner — Greenville, S. C., W. J. Moore
Utica, N. Y., Campbell & Jefferson Co.

SHEEP and CALF SKIN

GILLEATHER *for* TOP ROLLS

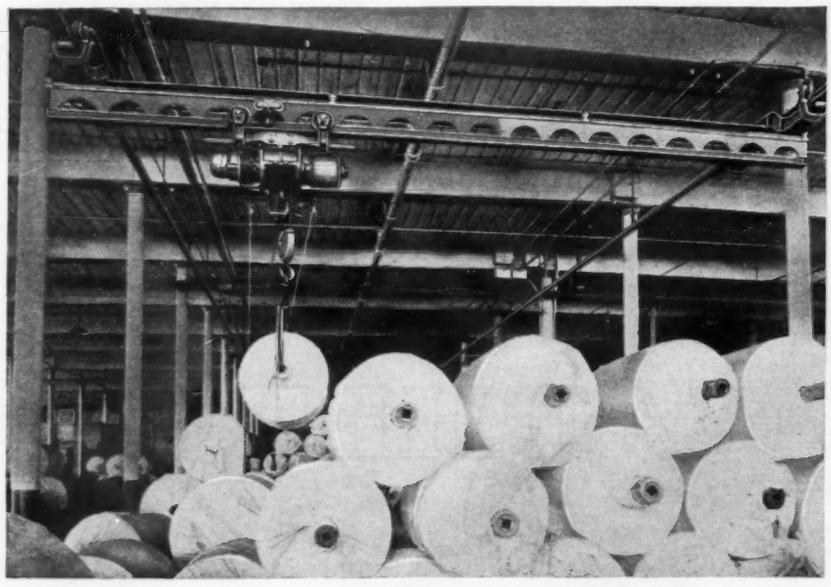
Display Box for Kitchen Kit

West Point Manufacturing Company is marketing the Martex Kitchen Kit in a harmonious ensemble. The kit consists of seven pieces: one turkish towel, two utility cloths, two dish towels and two pot holders. These are so arranged in a box with three windows that the purchaser can see the attractive multi-color borders of the towels. Box designed and manufactured by Robert Gair Company, Inc. The combination box reminds the prospective buyer of all her kitchen towel needs instead of one item only. The ensemble is a product of the company's Fairfax (Ala.) plant.

◆

Valuable Textile Drying Data

A list of the 57 mills and allied firms that made possible the financing and conduct for three years of the research on textile drying, that has been conducted under the auspices of U. S. Institute for Textile Research at the National Bureau of Standards under the latter's research associate plan, is published in the July issue of *Textile Research*. Also appearing in the same issue is the second of the released reports of this study, the subject being "The Moisture Relations of Textile Fibers at Elevated Temperatures". The results are given in 20 graphs for all of the common natural and synthetic fibers, 10 of the graphs showing moisture content against relative humidity, and in 10 others the logarithims of the moisture contents at given relative humidities are plotted against the reciprocals of the corresponding absolute temperatures. The latter show straight line relationships with changes in the slopes of the lines between 200 and 220 degrees F. These graphs and the accompanying discussion should prove invaluable to all textile engineers.



CLIPS *hours* OFF HANDLING TIME *every day!*

For handling cloth in the bleachery and for numerous other textile-handling jobs, a Cleveland Tramrail hand-propelled carrier with electric hoist (illustrated above) will save hours of handling time every day.

Materials are handled so much easier and faster by the overhead route — the Cleveland Tramrail way — that usual handling time is cut to a fraction. One operator can convey heavy loads direct to destination without rehandling.

Cleveland Tramrail systems can be made as simple or extensive as desired, for manual or electric operation.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1175 Depot Street Wickliffe, Ohio

CLEVELAND TRAMRAIL
OVERHEAD MATERIALS HANDLING EQUIPMENT
Other products: CLEVELAND CRANES and STEELWELD MACHINERY

Obituary Items

Personal notes on page 94

STUART W. CRAMER, SR., 72, a pioneer textile manufacturer and machinery engineer, passed away on July 2, at his home in Charlotte, N. C., following an extended illness. Mr. Cramer, one of the first machinery representatives and engineers in the southern textile industry, contributed greatly to the development of that industry. He was founder of the Cramerton Mills, Cramerton, N. C.

LOUIS E. MURPHY, 66, formerly president and chairman of the board of E. F. Houghton & Co., Philadelphia, Pa., passed away on June 26 following a short illness culminated by double pneumonia. He has been connected with the Houghton organization for 52 years.

J. L. LINEBERGER, a pioneer textile manufacturer of North Carolina, passed away at his home in Plumtree, N. C., on June 19. For many years he was connected with the Spencer Mountain Mills, near Gastonia, prior to his retirement several years ago.

JOEL T. RICE, 91, co-founder of Belton Mills, Belton, S. C., passed away on June 25 following a brief illness. MRS. B. E. GEER, of Greenville, S. C., and E. BLAIR RICE, of Belton, are among the surviving children.

A. MCDOWELL, SR., 78, president of Scotland Neck Cotton Mills, and Scotland Neck Hosiery Mills, Scotland Neck, N. C., passed away in July.

GEORGE L. HARDWICK, SR., 78, founder and president of the Hardwick Woolen Mills, Cleveland, Tenn., passed away on July 12.

HUGH K. WILEY, 53, purchasing agent of Signal Knitting Mills, Chattanooga, Tenn., passed away in June.

I. M. SCHOLLER, secretary of Scholler Brothers, Inc., Philadelphia, Pa., passed away on June 19.

I find this—and you'll KNOW you have the best in . . .

TEXTILE HOLLOW WARE

The Diamond Fibre trade mark identifies a quality product—built to give added years of efficient material handling service. You'll find it on

TRUCKS	ROVING CANS
MILL BOXES	BARRELS
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CONDITIONING TRUCKS and SPECIAL MATERIAL HANDLING EQUIPMENT

We'll be glad to send you a copy of our illustrated catalog.

◆

CONTINENTAL DIAMOND FIBRE CO.
NEWARK, DELAWARE

DIAMOND FIBRE HOLLOW WARE

Instant Wetting Out!

Draves Test
Shows New Nopco D L N wets out *instantly!*

Among the many advantages of the New **Nopco D L N** over other wetting out agents is its quick action even at lowest concentrations. Check this imposing list for answers to your wetting out problems.

1. Wets out in less than a second according to Draves Test.
2. Wets out in solutions as low as one tenth of 1%.
3. **Nopco D L N** can be blended with all types of vegetable oils.
4. Excellent results to be had with Cotton, Rayon, Acetate and Rayon-Acetate mixtures.
5. Exceptional re-wetting out properties applicable for Sanforizing and twist-setting operations.
6. Offered at low cost by a reliable manufacturer.

Nopco D L N can help cut your wetting out costs and speed production. Get the facts today.

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CEDARTOWN, GA.
CHICAGO
LOS ANGELES

NATIONAL OIL PRODUCTS CO.
HARRISON, NEW JERSEY

PERSONAL NOTES
About Men You Know

TYRE TAYLOR has been elected executive vice-president of the Southern States Industrial Council, Washington, D. C. Mr. Taylor is well known to the textile industry through his representation of the American Cotton Manufacturers Association in the wage-hour hearings in Washington and Atlanta in 1939. He is a graduate of the University of North Carolina; and in recent years has been engaged in legal practice in Washington.

R. C. JEFFERSON, former head of the Jefferson Kier Co., Philadelphia, has established himself as textile consultant with offices at Room 1403, 24 Stone St., New York City. In this capacity he works with both machinery manufacturers and textile mills, particularly on dyeing and finishing problems. He is currently supervising the installation of dyeing and finishing equipment at Riverside Mills, Augusta, Ga.

VICTOR H. BERMAN, president of the Onyx Oil & Chemical Company, Jersey City, N. J., has been re-appointed for

Mr. Berman

another term of five years as commissioner and treasurer of the Palisades Interstate Park Commission of New York and New Jersey, by Governor Moore of New Jersey and Governor Lehman of New York.

HERBERT J. BALL, head of the department of textile engineering at Lowell (Mass.) Textile Institute, has been elected vice-president of the American Society for Testing Materials. For many years Professor Ball has been active in the society's textile division Committee D-13.

WILLIE T. DRAPER has become overseer of the cloth room at Merrimack Manufacturing Company, Huntsville, Ala. He was formerly connected with Martinsville (Va.) Cotton Mills Company for about 18 years. At Merrimack Mr. Draper succeeds H. S. PRICE, who recently became superintendent of the Dadeville (Ala.) plant of Alabama Mills, Inc.

CARY L. PAGE, of Princeton, N. J., has been elected president of Jackson Mills Co., Wellford and Iva, S. C., and High Shoals, N. C., succeeding the late ALFRED M. MOORE. C. L. CHANDLER was re-elected as vice-president and general manager; and S. E. ANDERSON is treasurer and EUGENE M. ANDERSON assistant treasurer and secretary.

H. M. ELLSWORTH has been appointed manager of advertising of the Pennsylvania Salt Mfg. Company, Philadelphia, Pa., and its subsidiaries, succeeding MISS I. J. DENNERY, resigned. Mr. Ellsworth was previously advertising manager of Sterling Products Co., Easton, Pa.

C. H. HOWARD, formerly superintendent of Townhouse Hosiery Mill, Chilhowie, Va., has been made superintendent of the Salem (Va.) Hosiery Mills, and is succeeded at Chilhowie by JESSE PASCALL, who has been superintendent at Salem.

JOHN MARSHALL has been promoted from office manager to comptroller at Rock Hill Printing & Finishing Co., Rock Hill, S. C., succeeding the late JOHN MARTIN. ARTHUR ROUNDTREE has been promoted to succeed Mr. Marshall.

CHESTER H. BOYCE has been promoted to production manager at the Blackstone Mill of Lonsdale Co., Blackstone, Mass. JAMES KANE is now overseer of warp preparation. JOSEPH DANCIEWICZ is overseer of weaving and slashing.

L. N. MILLS has been made president of Paola Mills, Inc., Statesville, N. C., succeeding his father, the late N. B. MILLS. A. L. MILLS, SR., continues as secretary and general manager.

J. H. ROBBINS has become overseer of spinning at the Gaffney (S.C.) Mfg. Company. He formerly held a similar position at the Gayle Plant of Springs Cotton Mills, Chester, S. C.

(Obituary Items on page 92)

Waiting Room Stuff

By Our Telephone Operator

(This feature is an experiment. If you like it, tell us; and send us items for it. Address them to The Telephone Operator. This feature will endure just as long as we hear from readers with items to be used.)

Is it true that Henry Hersey bought a Lincoln Zephyr and a bright green uniform with brass buttons for his chauffeur?

•

One lone reader in an isolated mill complains that George Snow has failed to show him those kodak pictures. (If you are not over 80 you should see the ones Dave McSpadden has.)

•

That "sold-through-December" smile is worn by L. S. Ligon.

•

Luke Castile was explaining to M. T. Twitty, of Hartsville, why he picks up only those hitch-hikers who can cook. (Pick up two the next time, Luke.)

•

Why does John Turner insist on detouring around Westminster, S. C.?

•

Dave Friday, of Gastonia, stood up all day to see the Giants and Red Sox play in New York.

•

Why are little buyers harder to see than big buyers?

•

Walter Greer, Greenville, worked up to a Gold Star: six months and no wreck.

•

Dewey Carter, Gastonia, back on the job after a minor operation, reports having difficulty getting through doors sideways.

•

Have you seen Dick Osteen's new catalog?

•

Carroll Atkinson and his partner, Fred Decker, known as the Beau Brummels of the reed business, report considerable interest in a line of spinning tapes they recently added.

•

Does John Humphries maintain that military figure with backbone or whalebone?

George Davis, Charlotte, announces connection with Chas. H. Tennant's Sons Co., steel strapping. Both parties are to be congratulated on this.

•

Charlotte reports fewer rings in bathtubs since Jim Potter moved there from Birmingham. Jim sells Calgon.

•

Who was the salesman wearing one of those new pajama-looking outfits, who stepped into a certain mill superintendent's office and was promptly doused with water from the fire-bucket? The super said he thought the guy was walking in his sleep.

•

Wonder how many castor oil orders George Small has gotten since last Christmas?

•

Notice in a recent paper that Professor Jones of Georgia Tech said that textile graduates this year can have their choice of numerous mill jobs. Wouldn't some of the peddlers have a swell time under similar circumstances?

•

Wonder if the Johnson boys (J. D. and W. L.) were responsible for the damp and humid weather conditions found in most parts of the South during the first part of July?

•

Wonder why it is that Tom Mott refuses Charlie Stover as a passenger in his plane? (Load limit 1,000 pounds).

•

The world is not completely screwy as long as:

Ted Wallace is still seen flashing that ever-ready friendly smile.

Whit Quisenberry successfully argues with the contractor about the brand of paint to be used on his new house.

Bob Gattshall continues to be seen with those half-gallon hats.

Falls Thomason and Jake Jacoway are present at every convention or meeting with those pencils and memo pads.

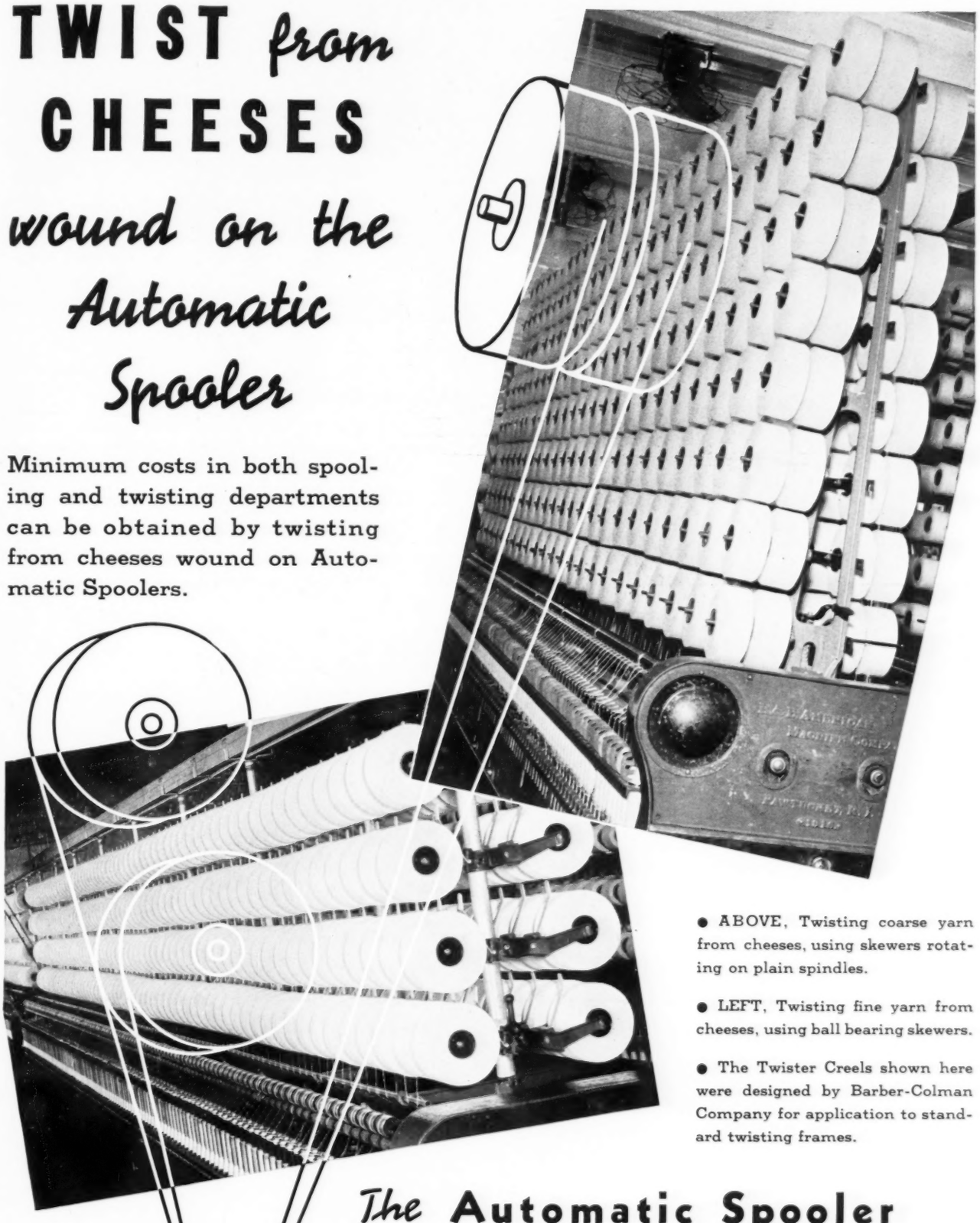
Hughes Siever still talks the best game of golf in the South.

The starch salesmen get price-change telegrams almost every day.

Rip Wear, Shorty Mitchell, Ernest Key, etc., continue to grow and prosper.

TWIST *from* CHEESES *wound on the Automatic Spooler*

Minimum costs in both spooling and twisting departments can be obtained by twisting from cheeses wound on Automatic Spoolers.

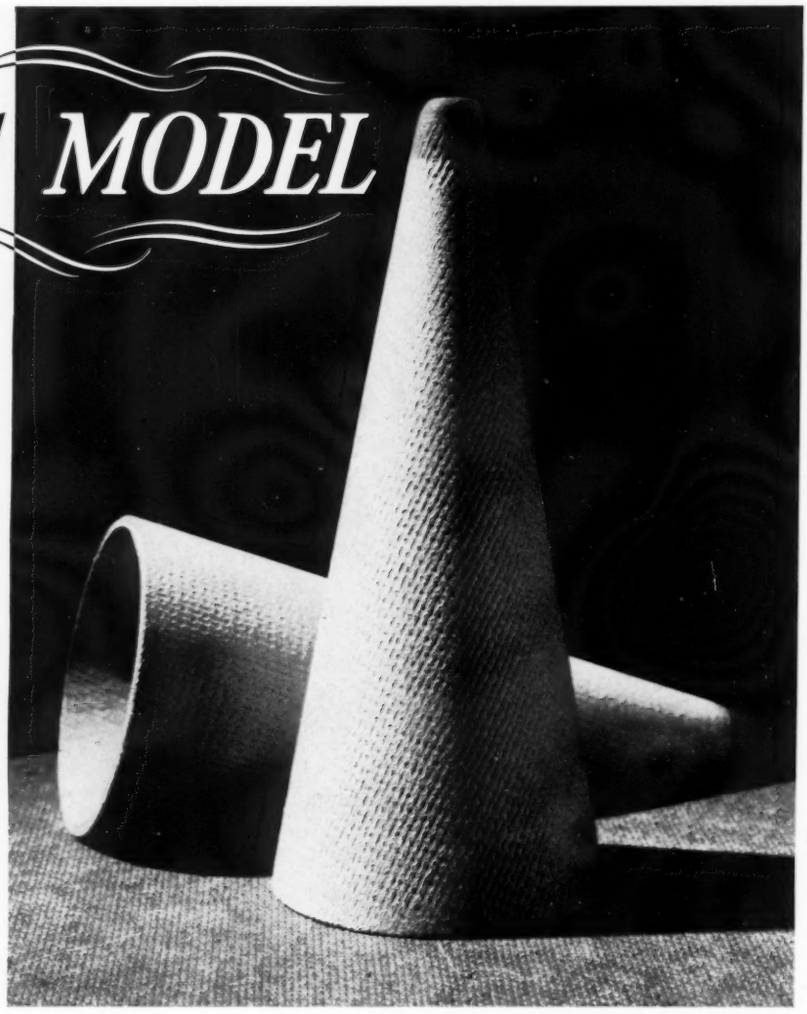


- ABOVE, Twisting coarse yarn from cheeses, using skewers rotating on plain spindles.
- LEFT, Twisting fine yarn from cheeses, using ball bearing skewers.
- The Twister Creels shown here were designed by Barber-Colman Company for application to standard twisting frames.

The **Automatic Spooler**
IS EXCLUSIVELY A PART OF THE

BARBER-COLMAN SYSTEM of SPOOLING and WARPING

1941 MODEL



Improvements at frequent intervals take the place of new models in SONOCO Textile Paper Carriers. These improvements are designed to increase efficiency and lower costs. Thus the Velvet Surface Nutaper Cone of a year ago is outmoded by an improved Nutaper. It works on the same winding equipment, it does the same job in packaging yarn—but it does it better, more efficiently, and therefore cheaper. In the next year, or two, a new and still better Nutaper Cone will be developed and it will be a Sonoco product.

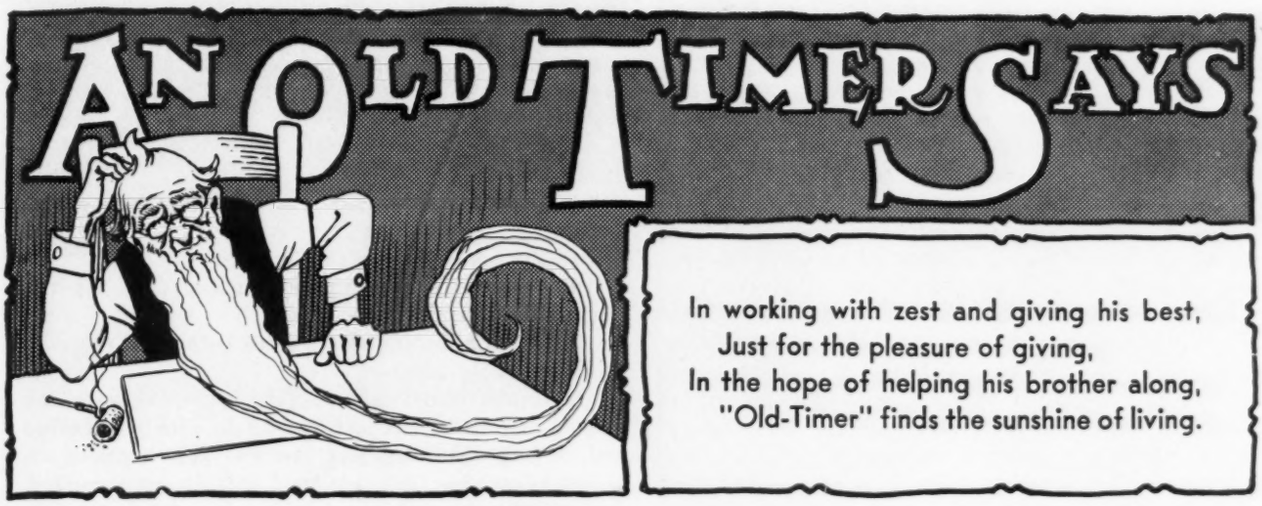
SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO SERVES THE WORLD PAPER CARRIERS

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

SYSTEM

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part in the conversation, while those in *italics* represent JIM'S part.)

Trade last for you, OLD-TIMER.

Thanks, JIM, but if you expect me to make up something which I would claim to have heard someone say which was complimentary to you, just to receive what you say is a compliment to me—no dice.

You mean to say, OLD-TIMER, *that you have never heard anyone say anything complimentary about me.*

No, not at all, JIM, but just at the moment I do not recall a particular instance, therefore, I do not propose to make up something in order to hear what you have to say.

O. K., and, come to think of it, what I heard may not be considered a compliment by some people, especially some overseers and superintendents I have known. In fact, it has been my experience that when the average overseer or superintendent is given the authority to act as purchaser or buyer for his department, it generally makes his bump of egotism grow to such an extent that he gets what is more generally termed the bighead, and as the conversation I heard about you was concerning your system of buying supplies for one of the largest plants in the South, many overseers and managers would probably criticize the system rather than compliment it.

However, suppose you give us an explanation of that system in the hope that some overseer or superintendent may use the general idea upon which to build a system of their own. I know it has been a time-saver for me and a money saver for my company, although my plant is only about half the size of the mill where you used the system. In fact, OLD TIMER, *I know one buyer of a chain of mills well enough to talk freely to him concerning his work, and, somewhat to my surprise, he does not seem to have any system at all to guide him in making purchases of supplies for the mills he represents.*

What I mean to say is, he does not know which lubricants are best for a certain mill except what he is told by the superintendent and overseers. For example, he simply buys belting as cheaply as he can. He gets up a list of all the belting his mills will use for a year and then with this rather large quantity to offer a belting manufacturer he shops for the very best price he can obtain, based, of course, on specifications for quality, weight, etc., etc. He is buying shuttles from three shuttle manufacturing firms simply because some overseer or superintendent likes a certain shuttle or a certain salesman better than he likes another shuttle or salesman. Of course I'll admit that each overseer or superintendent is confident the shuttle or reed or belt or loom picker is best for his mill, but when you pin him down to give you actual facts backed up by records, you don't seem to get anywhere.

Ever since you started me on the system you were using, OLD-TIMER, *I have taken every opportunity to question other mill men about their system for the purpose of checking up on our own system to see if someone had something better. Our system is so simple, although requiring some book work, that I have been curious to know if someone had a better one, and must admit that my search has been more than disappointing, because there does not seem to be any standard system, in spite of the fact that reports indicate that there is quite a wide variation in the cost of supplies based on pounds of product produced, or machine hours operated, or most any way that you arrive at cost of supplies. For example, two mills with practically the same methods of driving their looms, spinning and card room machinery will show as much as 25 per cent difference in the total cost of belting based on practically the same running hours.*

It does seem to me, OLD-TIMER, *that there is a screw loose somewhere with such a system of buying belting, and this same reasoning seems to prevail in most mills in the purchase of supplies of all kinds, and for all purposes. To illustrate further, we recently found as much as 34 per cent difference in the number of fill-*

ing quills used by mills making the same product. The information was of course worked out on a per thousand spindle basis.

There was one very pronounced fact which your system uncovered in our mill, OLD-TIMER, *and although seemingly of a minor nature, we found out that it really amounted to much more than the actual cost of the item of supply because it affected production all out of proportion to its cost. The item, or at least one of the items among several which affected production more than their relative cost, was jack and harness straps for looms. The purchasing agent bought leather slabs or bellies, to be used for making these straps and our system proved to us that it was economy to buy regular five-inch belting strips and cut four 1¼-inch straps from this higher priced leather. In other words, it was shown that the loss in loom production caused by the breaking of a jack strap made of the cheap leather cost the mill more than the few cents difference in cost of a jack strap made of the belting stock. The records showed that quite often a loom would stand thirty or forty minutes for a jack strap to be replaced when the section man was busy on another loom and in some instances he would have two looms out of fix which he would have to work on before getting to the loom which was standing on account of a broken jack strap.*

This one item brought out clearly your explanation of economy, OLD-TIMER, *and I have always been grateful to you for giving me that thought, as it has been of inestimable value to me in my own personal business of buying the things the average man who has a family has to buy, as well as helping me in many ways about running my job.*

For the information of OLD-TIMER'S *readers I will give his slogan for economy, which is briefly stated in these seven words:* "ECONOMY IS THE WISE EXPENDITURE OF MONEY."

The great majority of overseers, superintendents and managers, as well as purchasing agents, stress too strongly the one item, "Price", in making purchases without having any system to prove whether the lowest priced product or supply is really as cheap as one which costs 10 per cent, 15 per cent and in some instances 25 per cent more.

I'll never forget the incident which OLD-TIMER *told me caused him to realize that a man who is intrusted with the expenditure of a firm's money, or in the spending of his own money, is duty bound to give the problem profound thought and study before spending the money. It was years ago when coal was much cheaper than it is now and transportation was also much less per ton of coal. There were not so many power plants using run-of-the-mine coal. Even stokers in residences, apartment buildings, etc., just did not exist; therefore, this type of coal was not so much in demand and all of these factors contributed to its low price.*

OLD-TIMER'S *boss gave him instructions to enlarge the storage space for boiler coal by extending the railroad trestle for about 30 feet. It so happened that this 30 feet extension carried the coal chute back over a large ditch which had formerly been a rain water drain. When the trestle work had been finished* OLD-TIMER *took the wagons and outside force of laborers and started filling in this ditch to bring it up to the level of the rest of the storage space for coal. The secretary of the mill, who was also the cotton grader, passed by on his way to the warehouse and saw the work going on. The following conversation ensued:*

"Where are you getting the dirt to fill up the ditch, OLD-TIMER?"

"We are hauling it from that bank just back of the village."

"Pretty long haul, isn't it?"

"Yes, but it is the nearest place we can get any dirt."

"Why don't you fill up the ditch with coal? It would be considerably cheaper."

Of course OLD-TIMER *was not familiar with the cost of coal as he had nothing to do with purchasing coal, or any other supplies; he was just a young superintendent, but boy, oh boy! was he embarrassed, and did that teach him a lesson. He said he made a vow that he would never do another job of any kind nor spend a penny of his firm's money for anything until he had thoroughly investigated every phase of the proposed work or purchase, which would consist of obtaining prices of all materials to be used—the composition and quality of all materials—an estimate of all labor costs, etc., etc. My belief is that the lesson* OLD-TIMER *learned from that experience has been worth thousands and thousands of dollars to the firms he has since worked for.*

As to whether the experience stated in the foregoing had any bearing on OLD-TIMER'S *attitude toward traveling salesman, I do not know, but I do know that he took an entirely different attitude toward the man who burns up the gas to call on the textile trade than any other superintendent or manager or buyer I have ever known. He claimed that the traveling salesman is a walking encyclopedia to any overseer or superintendent or manager who would take the trouble to get the information out of the salesman which he absorbed in his conversation and from the experiences he gained from the large number of mills and men he called on. Therefore, instead of running from the salesman as some men do, he was always anxious and glad to see them.*

At one plant OLD-TIMER *had charge of he put up a large sign in the office which, as well as I can remember, was worded something like this: "To the Traveling Public: You are welcome to this office. Send in your card and we will see you as soon as possible. We realize your time, as well as ours, is valuable, and it is to our mutual interest to transact our business within the minimum length of time necessary."*

The reception room (office) had several chairs and a center table on which were the current textile magazines, the daily paper, ash trays, and matches. If OLD-TIMER *was in the mill or tied up for some time, the girl at the information window would so inform the salesman as soon as he came in and suggest that if he had any other calls to make, he could probably see* OLD-TIMER *at such-and-such a time. This arrangement saved both parties time, and most salesmen realized that they should be ready to talk business first and let the social part of the visit fol-*

(Continued on page 104)

Is this letter addressed to **YOU?**

For **Practical Mill Men** *Everywhere, U.S.A.*

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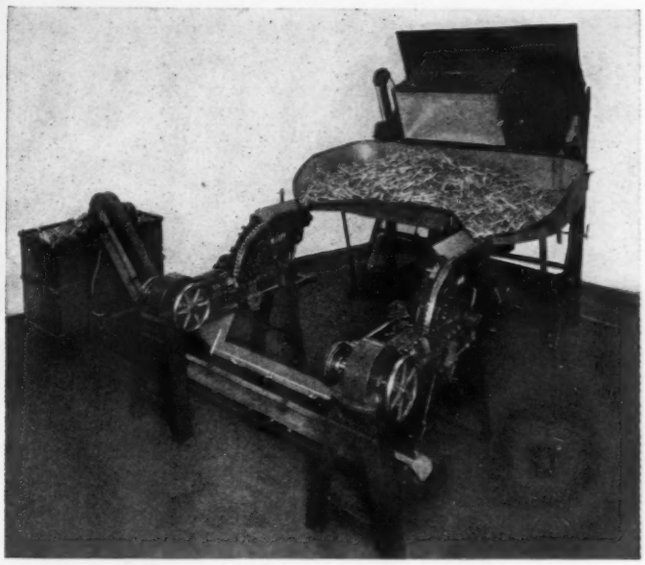

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HOW OTHER MEN MANAGE

Part of Card Controlling Amount of Strips Removed

A QUESTION recently submitted to the editors of COTTON is as follows [June, page 114]:

"What part of the cotton card controls the amount of strips taken out by the top flats? Would too wide a setting of this part of the card cause heavy or light flat strips?" Given herewith is an answer to this question as prepared by a qualified mill man:

EDITOR COTTON:

The part of the card used by most carders to control the flat strip is the front top plate or percentage plate. If this plate is set too close it will give too light a flat strip and if set too far away it will give too heavy a top strip. This is a very hard part of a card to set and we find a wide variation in strips from our cards unless our grinders know just how to handle this setting point and the plate itself.

Of course the setting of the plate to the cylinder also has a very pronounced effect on the amount of flat strips you get. So does the speed of the flats.

If we change the flat setting from a 10/1000-inch to a 7/1000-inch we will get a heavier flat strip. We cannot use the flat setting as a means of controlling the flat strips because of the danger of facing the cylinder and flat wires.

We have experimented with these two settings in order to find just which had the most effect on the strips. We will submit our data on this test and let you draw your own conclusion. Facts are more convincing than words.

This experiment was performed several years ago but we have all the data on the cards and if necessary will be glad to furnish it. The columns under the various settings indicate weight in grains of strips for each card.

TABLE 1

Card No.	Plate set to 15/1000-in. Grs.	Plate set to 22/1000-in. Grs.	Plate set to 29/1000-in. Grs.	Plate set to 34/1000-in. Grs.
96	13.1	16.9	17.8	19.2
97	14.0	18.2	19.5	20.3
98	13.3	17.0	17.3	18.6
99	16.4	19.3	20.6	21.1
100	15.9	19.0	20.3	21.8
101	14.9	16.2	18.0	18.2
102	15.1	16.5	18.2	19.9
103	15.0	16.9	18.4	19.0
104	too little to weigh	14.9	16.5	19.1
105	13.9	14.2	17.0	20.5
106	16.1	19.0	20.2	23.3
107	17.0	19.5	20.0	22.1
108	too little to weigh	14.1	16.0	20.0
109	15.8	18.0	19.3	20.4
110	15.3	17.9	19.0	19.9
111	too little to weigh	14.2	15.7	18.1
112	only on ends	15.1	17.4	18.0
113	16.0	16.0	18.1	20.8
114	15.8	16.8	19.7	22.2
115	17.2	19.4	20.1	21.2
Average	15.3	16.95	18.45	20.1

We see that plates set to a 15/1000-inch give an average of 15.3 grains if we discount the cards that we did not get any strips from. With a setting of 22/1000-inch an average of 16.95 grains; a 29/1000-inch setting 18.45 grains; and with a setting of 34/1000-inch, 20.1 grains.

The question immediately arises why the variation and why no strips from cards 104, 108, 111, 112. That calls for more explanation which we will give further on.

Now let's see the results of setting the flats closer to the cylinder.

TABLE 2

Card No.	Flats set to 10/1000 Grs.	Flats set to 7/1000 Grs.
10	17.8	20.6
11	19.2	24.3
12	19.1	21.9
13	18.3	20.5
14	17.6	19.6
15	19.5	21.3
16	18.2	22.5
17	17.3	20.8
18	18.5	23.4
19	17.1	19.2
Average	18.26	21.41

I might state that on the foregoing test the plates were in good condition, clean, true and set to a 34/1000-inch gauge. You see then that both settings change the amount of top stripping you will get. In making the weighing in both tables the same amount of time was allowed after stripping.

Now let's see why we had some cards in Table 1 that would not give us any strips when set to 15/1000-inch. Upon examination of those cards we found the plates out of true. In other words they were not setting properly on a 15/1000-inch gauge. After the test was completed we took the plates off and found that they had been "sprung". Going into the matter further we found that on some model cards there is a thicker plate. However all plates in this particular test were the same and all the cards were the same make and year. However these cards had been moved several times and it was probably this moving that caused the plates to be sprung. Of course chokes going through the card will distort the plate. If cards are to be moved one end of each plate should be taken loose. This will take the strain off the plate caused by lifting one side of card and the strain imposed by handling.

How can the plates be corrected? Some never can, but if your card grinder is patient and if you are willing for him to spend a great deal of time on those plates he can improve all of them and save money by being better able to control his strips.

We who have worked on plates call this "peaning" the plate. It is simply a trial and error proposition.

Take the plate off the card and give it a light tap on the ends or middle as needed until the plate sets correctly. Don't expect your grinder to hurry when he is doing this work.

Now let's study the card and see why the change in setting gave the results we got. How are the strips put on the flats?

How Card Functions

It is our opinion that the fibers are thrown from the cylinder to the flats by centrifugal force. Basing our opinion on centrifugal force it becomes necessary to offer some proof or reason for this opinion. Centrifugal force has a tendency to throw off first that which clings the least. In that case immature fibers, piece of bole, dirt, etc., will be deepest in the flat strip. We find just that. The top side of the strip, or the side next to the flat is dirtiest and seems to contain more foreign matter.

Carrying our assumption still further, that, it is centrifugal force that deposits the strips on the flats, the strips will become heavier as the cylinder loads up. Back to our previous statement that centrifugal force throws off that which clings the least; as the cylinder loads the fibers are held less securely by the wires of the cylinder clothing. Hence they are thrown off more readily. Consequently heavier strips. Table 3 shows results found in an experiment conducted along this line.

TABLE 3

Card No.	One hour after stripping Grs.	Three hours after stripping Grs.	Five hours after stripping Grs.
20	17.8	18.6	20.3
21	19.5	20.3	22.5
22	17.3	19.4	22.0
23	20.6	21.2	23.8
24	20.3	21.0	23.9
25	18.0	19.3	22.4
26	18.2	19.2	21.6
27	18.4	19.9	23.1
28	16.5	18.9	21.9
29	17.0	18.5	21.4
Average	16.36	19.63	22.29

We note that 5 hours after stripping our top strips have jumped from 16.36 grains, to 22.29 grains. This also holds with cards whose cylinder wire is short and the reverse is true when the flat wire is short.

But what has all this got to do with setting the top plate? What relation does this setting have to centrifugal force? The same amount of force is still there but the closer we bring the plate to the cylinder, the closer we hold the air currents to the cylinder, the more resistance the fibers will have in passing to the flats. Therefore less flat strips.

With this still in mind let's turn back to the setting of the flats to the cylinder. When the flats are close to cylinder as in the case of the 7/1000-inch setting, the fibers are thrown harder against the flats and therefore more of the strips are held back by the flats.

Upon examination of our tables we find a variation in the amount of strips taken from cards. We think these causes can be explained by the following: condition of wire on cylinder, condition of wire on flats, condition of chains, conditions of licker-in, lap variation, condition of plates and screens.

'Tis an interesting study. Try it some time.

CONTRIBUTOR No. 7084

Putting More Stock in Card and Drawing Cans

EDITOR COTTON:

On page 90 of the January 1940 issue of COTTON you offer invitation to the readers who have experimented on adding more sliver to their card and drawing cans to relate their experiments and results for the benefit of other readers.

In our card room we have applied a means of compressing or condensing the card sliver by effecting more weight on the calender rolls and are adding a nice percentage of sliver to the card cans, though we haven't tried the setting of the turn tables off center in the coiler heads, nor changing the tube gears for this purpose either.

This compression of the card sliver has been accomplished by the application of the following equipment to each card:

Two ¾-inch coil springs, 12 gauge spring wire, wound ¼-inch, and 3½-inch long.
Four slotted oval head stove bolts 3/16 x 1¼-inch.
Two hardwood block, 1 x 2 inches.
Two castings as per drawing Fig. 1.
Drilling of 1¼-inch hole for oiling the bottom calender roll shaft.

To apply these additional parts requires the drilling of 4 holes to each card in the calender roll stands, to straddle the opening that holds the journals of the top calender rolls. These holes are drilled 9/64-inch and tapped 3/16-inch.

After doing the machine work the castings are placed across the openings with the hardwood blocks placed longitudinal atop the calender roll journals, and the springs resting on the hardwood blocks. The castings are placed above the coiled springs in the recesses made in the casting, the screws being inserted and tightened to the desired degree to apply the pressure needed to accomplish the condensation of the sliver to a smaller bulk.

Fig. 2 gives an end view of the device after having been applied, and shows the block of wood, the casting, as well as the stand and the protruding portion of the top calender roll.

With the application of these castings, hardwood blocks and springs have given forth some fruitage of accomplishing "that larger package" even on the card with an increase of 28.6 per cent more sliver in the cans, and the increase of the doffing time on the cards from 70 to 90 minutes, and an actual increase in poundage from 10½ to 13½ pounds of card sliver per doff. No trumpets have sized or changed, but I believe that another pound could be placed into the cans if the trumpets were reduced or exchanged to the size best suited for the sliver that is being produced.

With this change of doffing schedule we have been able to reduce the cost of production. We have about 200 cards, running 50 grain sliver and carding 9 pounds per hour.

In another mill I know having several hundred cards the cost has been reduced also. Incidentally I might say that with the 50 grain sliver this mill

changed the trumpets and drill with a size 28 drill.

Using this method of condensing, the yarn has held up in breaking strength, and though we have not run any sliver evenness tests, I am inclined to believe that a bit more variation is present.

Some evil may arise after the run of a few years by channelling of the calender rolls by this added pressure, but that is yet to be seen.

When new cards are installed in mills that are already running, it is easy to detect the difference in the sliver that is produced by the old and new cards by the size of the sliver that is deposited in the cans. This too can be traced to a condition of the coiler heads, more especially the studs in the calender rolls within the head. When these studs become worn they do not set as close together as when they are new. It is only reasoning to see that over a course of years these studs will wear to some extent, the gears become worn, and in the end it is just another loose bearing trying to do the work of its prime condition when it is decidedly weakened.

One similar observation was that of three makes of cards in one card room. Two makes of cards were 18 years old, and one was new. The new cards produced a smaller appearing sliver (all cards producing 48 grain sliver), but the doffing was done on schedule on all sets and gave place to being able to detect the evils and short comings of either make of card. The heads on one type card were set to fill the cans nearer the edges than either of the other cards, and each can as doffed could be detected in the group after having been doffed. The one type of card always seemed to produce a softer, puffier sliver, and filled the cans to a jamming of heads condition much more easily than either of the others, especially on dry, hot days. The cans from the other cards always were able to take a look over the tops of the other cans of sliver.

CONTRIBUTOR NO. 7076

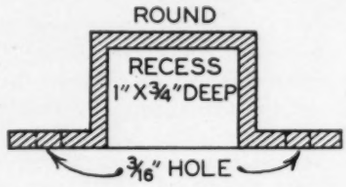

FIG. 1

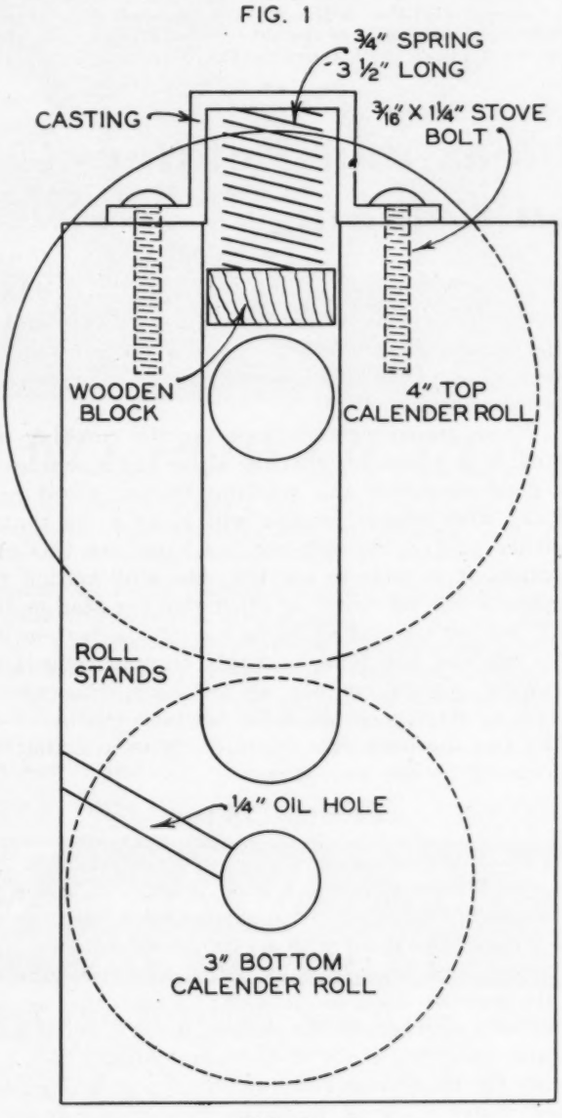

FIG. 2

Defect in Pile Fabric

EDITOR COTTON:

We are making a pile fabric using two warps, and every now and then we are troubled with an objectionable place or effect that looks something like splashes or light places in the fabric, or places resembling fabric that has been wet. The center of this splash or defect in the cloth is redder than the other parts of it, and the splash seems to taper off or shade like a wet spot on any other piece of cloth. The edges of the splotch or splash look frosty around the edges. This defect does not run evenly all the way across the cloth fillingwise, but runs rather irregularly fillingwise.

The pile fabric is made using two warps, the bottom beam is running 14s and the top beam, where our trouble lies, is run with 9s yarn. Of course, the bottom warp makes the bottom side of the cloth and the top beam makes the top. The top beam runs with 36 per cent more warp per yard than the bottom beam and the warp from the top beam is fed in with a special roll.

The goods are beam-dyed with Red F direct dye, using a 40 fluid starch in the size compound. Our size formula calls for 32 pounds of starch and 5 per cent soft material. This is mixed cold and boiled for 60 minutes. The compound is put in 20 minutes before the cooking is finished.

When we are running our warp on the slasher we can see where the ends of the flannel come together on the squeeze rolls, but this only shows very little in the goods. We are running this on beam-dyed work and as we do not completely dry the beams before slashing, we run the damp beam-dyed work over a 7-foot cylinder to dry, at the slasher, and the yarn is then run on over three drying cylinders on the slasher. In other words, the first cylinder at the

slasher simply drys the yarn from the beam-dyed work and then the yarn passes into the size box, through the squeeze rolls, and then over the three cylinders. We use a double size box with two 750 pound squeeze rolls, and the size is always maintained at the proper level in the size box.

So far we have been unable to determine just what these splashes or defects in this pile fabric are. It occurs to us that it might be a slashing trouble, but then it may be loom trouble. We are unable to see this defect at the loom while we are looking for it, but it invariably turns up in the cloth after we have taken it from the loom. It may be on the loom all the time but we have yet to be able to catch it.

Any suggestions as to how we might remedy this trouble will be greatly appreciated.

CONTRIBUTOR NO. 7097

An Old-Timer Says—

(*Continued from page* 98)

low if time permitted, which is just the reverse to the usual procedure used when the salesman calls on the mill man.

Now, OLD-TIMER, *since you would not let me tell you the very nice compliment I heard a small group of salesmen give you, I have laid the foundation, so to speak, for you to explain your system of purchasing supplies to us.*

Well, JIM, it will be necessary for me to give you more or less of an outline of the system because a detailed explanation would be too lengthy. However, with a few illustrations of certain items, I feel quite sure the reader will catch the idea and be able to apply the system to all of his purchases of supplies and thereby gain a mass of valuable information from a manufacturing standpoint and at the same time save his firm a good many dollars.

First, let me explain that it matters not how efficient an overseer or superintendent is, how good a manufacturer he is or how good a manager of help he is, he must realize that when he takes charge of a very large plant his individual knowledge of manufacturing and management is going to be partly lost unless he has the faculty of passing that knowledge along to his department heads in such a way that they will run that department as near as possible the way he would run it if he were in personal charge of that one department.

For example, if a man proved himself to be an expert loom fixer when he was running a section, so much so that he outclassed all the other loom fixers in production and cost of supplies, which achievement caused him to be promoted to overseer—then if he does not have the faculty or management, if you care to call it that, to teach his loom fixers and get them to not only understand, but carry out, his system of fixing looms, then he has lost the benefit of his superior knowledge of fixing looms and it does not show up in his management of the weave room.

I have in mind a man who I believe knows more about fixing looms and what it takes to make a loom turn out the highest production—a man who has had charge of some of the largest weave rooms in the South, but has never been able to hold a job very long as overseer of weaving and therefore never advanced to the position of superintendent. His trouble, if I have been able to analyze it correctly, is that he is unable to spread his knowledge over thirty or more loom fixers and get them to run their sections like he would run a section himself.

This reasoning also applies to a man who can and does run a room of 1,000 looms right up-to-date, turning out a high percentage of first-class goods at a minimum cost per pound, because the job is small enough to allow him to give every detail his personal attention, but give that man a room of 3,000 looms and his individuality is lost. You can't go through that room and see his system of fixing looms as you examine the looms. It is the same with relation to a man who has 40 cards where he can be sure every card is set as he would set it himself, but on 400 cards, unless he has a system which will compel the grinders to set the cards as this overseer knows they should be set, he hasn't got the management ability which would carry him on to bigger jobs.

(In the next installment, "Old-Timer" will begin a description of his system of purchasing supplies and equipment for the mill. It is suggested that readers preserve their copies of the several installments in which this description will appear.—The Editors.)

Ideas and Pointers on Combing

EDITOR COTTON:

This is a brief discussion of the comber and in this letter the author will try to point out some of the methods that have been found good practice in his experience.

When preparing the stock for the combing machine, it is necessary that the sliver lap machines be in good condition and working freely. Good head blocks with proper tension will make a lap that is neither packed too soft nor too hard. In this connection, it is wise to see that the stop motion roll supports are not worn, or otherwise the stop motion will not lay parallel along on top of the bottom lifting roll and will bind, and this binding retards the drawing coming up out of the cans, causing the sliver to stretch on the table between the knock-off rolls and the back drafting roll. It is well that the foregoing be checked often

Covering Lap Pins

To eliminate waste at the sliver and ribbon machines, I have found it a good practice to cover the wooden lap pins with denim or khaki cloth, or the pins may be covered with a rubberized material such as that used on sand rolls of looms running rayon. This may be done as follows: Cover the wooden pins with a good glue or cement, using a small paint brush. Cut the cloth in the usual bias, which prevents the cloth from raveling out; or, if it is rubberized material, wind it on in the same manner in

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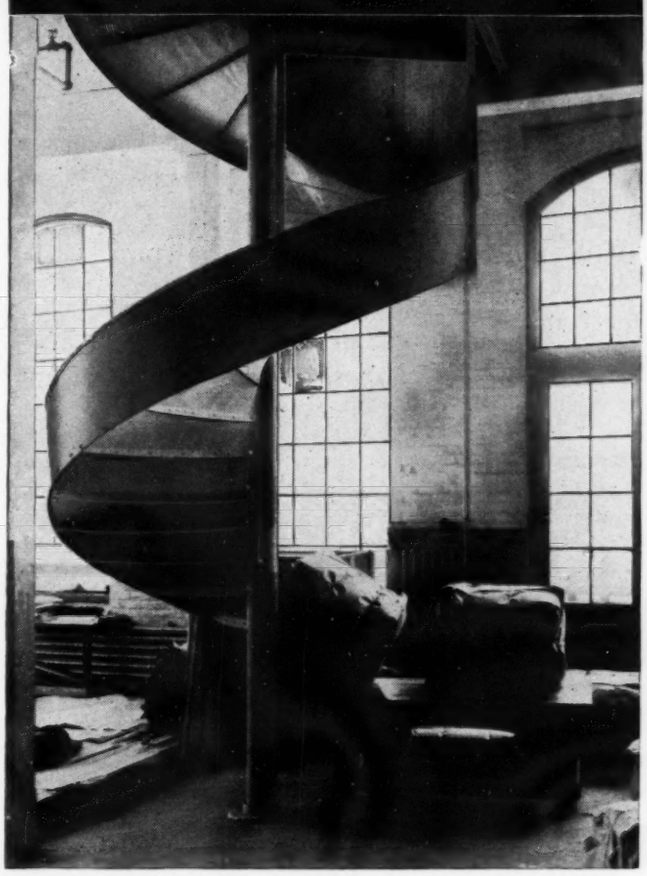

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which it is put on sand rolls, spiraled. After the cement or glue becomes tacky, lay the cloth on a table and roll it around the pin. When it has stood for a few minutes, use a few tacks along the seam where the cloth meets. The cloth can then be cut and the sides of the pin trimmed.

After this it is ready for use, so take the pin to the sliver lap machine, raise the head blocks and give the lap a slight spin. This spin or turning motion will break the lap at or near the calender rolls and the covered pin may be inserted. When inserted let the head blocks down and start the machine, and when the ribbon of the lap hits the covered pin it will automatically roll around it; repeat on each full lap.

This method of covering the wooden pins can also be applied to lappers when the mill uses the latest type of long draft drawing machines. If the present run of waste from the lap machines is 50 pounds per 8-hour shift, this method of covering will cut it well in half because when the lap runs out at the ribbon machines there is no tail to pull off and throw into the waste can; also, the lap has a feather edge and is in ideal shape for the new lap to be pieced onto it.

The ribbon machines must be in first class condition, such as good top and under clearers, freely working steel and top rolls, etc. There must be no loose cots on the top rolls and the quarter turn plates must be highly polished. Also, the frictions must give the same tension on each head block as the proper tension here saves many laps from splitting on the combing machines—the cause of much bad work.

Relieve Tension in Summer

During the summer months it may be necessary to take tension off the ribbon machines to some extent in order to relieve lap splitting. This can be done by moving the friction weights several inches. It has been my experience that a medium slack wound ribbon lap does not have a high tendency to split under high summer humidity, such as occurs during the "dog-days".

I have found that a set of combing machines even of the same make, cannot be timed together because of worn keyways, cam sleeves, cams, cam rolls, cam rings, roller motion and head gears. The only way to get good piecing and a smooth drawback is to time the comber so it will give the best work. Some comber men time the combers to the builders specifications even after the parts have worn and they think that the comber is doing its best work, but to get best results it is often necessary to time under or over—from a quarter to a half number on the dial.

Waste at Comber

Checking for waste percentage should be done once each week and records kept of each machine for comparing the last week or the last month. The purpose of the comber is to remove the percentage of short fibers and neps from the cotton and to enable the mill to run the spinning department with a low twist multiple, which in turn gives a long wearing and soft weaving material. In reality, this purpose is defeated to some extent when a lap is made that is too heavy for the half laps to handle properly.

If the fine needles that are carried on the six back rows of our half laps are crowded by a lap that is too heavy or too thick, the neps which we are endeavoring to remove will be in the stock after combing because the half laps have been given more work than they can handle properly. When the ribbon lap is too thick for the half lap needles to comb through, the stock will get combed only on the under side and the stock on the top side of the tuft of cotton cannot get the benefit of the short fine needles on the back rows of the half laps. These fine needles are, mainly, the nep catchers because they are much closer together and a nep will have very little chance of escaping the combing process if this lap of cotton is thin enough for the fine needles to comb completely through.

It is necessary that a constant relative humidity of between 50 and 55 degrees be maintained in the combing department as this will be helpful in controlling the fibers as they are processed through the combing period. If possible the lap machines, combers and drawing machines should be partitioned off to themselves so that the space to be controlled is not so large.

Combing cotton is a fine art and should not be abused or it will backfire and give no end of trouble in the form of gouts, slubs and neps.

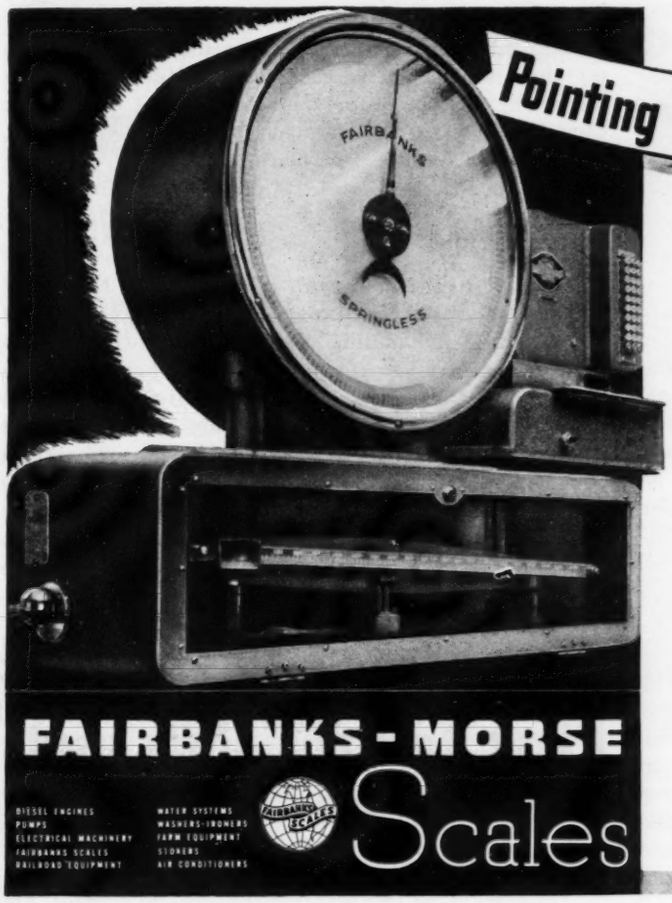
Drawing Important

Comber sliver as a rule has more variation than any single process in the combing department. This is true because if our combers are making 100 nips per minute, the sliver on an 8-head comber is cut entirely in two 800 times per minute and pieced together again, so when the stock is presented to the breaker drawing machine it is necessary that the latter machine be in good order. These machines should be inspected each day for any flaws such as bad steel rolls, loose covering on top rolls, good top and bottom clearers, correctly weighted rolls, etc., as here we make or break the product of manufacture. It has been said by many experienced mill men that the drawing operation is the heart of the cotton textile plant. The drawing process is a second blending process and its purpose is to even up the comber sliver.

Weighing Drawing

Breaker drawing on combed work should be weighed every four hours of running time and the r.p.m. of the breaker drawing front roll should not be in excess of 225 r.p.m. Keeping the breaker drawing on the correct number will eliminate much changing of gears on the roving frames. In connection with drawing, it is helpful to keep the trumpets of the correct size for the grain sliver that is being run. The trumpets should be checked with a gauge every three months.

CONTRIBUTOR NO. 7094



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Handing Colored Filling

EDITOR COTTON:

On page 109 of the May issue of COTTON, your "CONTRIBUTOR No. 7068" has asked a question on a system for handling many different kinds of colored filling in the weave room. Possibly an outline of our system will help him.

We have 151 colors and numbers. For these 151 colors and numbers we have 151 bins, or a bin for each color. We have a man to see that the doffers put the correct colors and numbers in the correct bins. Each bin has a board above it, showing the number and color of the filling. When the filling haulers go to the bins to get filling, our filling man sees that he gets the correct color and number. The filling hauler has a box and can haul eight different colors and numbers of filling.

CONTRIBUTOR No. 7077

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EDITOR COTTON:

This is in answer to "CONTRIBUTOR No. 7068", who on page 109 of the May issue asked for a method of handling filling of different colors in the weave room.

At our plant we bring the colored yarn down from the spinning room in boxes about four feet long, three feet deep and two feet wide. The boxes are rolled by a man to the cross alleys in the weave room and from there the filling buggies are loaded up and pushed to the various looms.

Our filling buggies are made on stands and roll down the loom alleys. The container will carry approximately 200 quills. The girl sticks these quills in the box and carries as many as five colors at one time, and of course the colors are distributed to looms where that color is required. It is just simply a matter of rolling a box of each color to a cross alley, then having the girl who fills the batteries get the filling from those boxes and deliver it to the loom batteries.

CONTRIBUTOR No. 7078

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EDITOR COTTON:

Your "CONTRIBUTOR No. 7068" in the May issue of COTTON, page 109, has asked a question on the handling of colored yarns in the weave room. I would like to get some ideas on this myself because I believe our system is too costly, but I will outline what we do and then maybe some other readers can suggest something further.

We have a filling hauler on a block of looms. He brings all the filling yarns used by his particular block of looms to the looms and places the filling on pin boards fastened to the looms. Most of our box looms will have four different colors or kinds of filling running in each warp. This seems to forestall a box to hold a bulk of filling at each loom as is practical on a one-shuttle loom. Hence the pin board.

The filling hauler collects the colored filling at the color grader's booth and loads it into a long box or truck. This truck is divided into 14 to 16 compartments so that he can bring to the weave room 14 or more different colors at one load. He distributes to the different looms the proper filling for that loom, getting all the information he needs from the warp tag that is attached to each warp. He very quickly learns the correct proportions to leave at each loom. That is, he learns that he must leave 50 quills of white, 15 of blue, 8 of red, 2 of black, etc.

CONTRIBUTOR No. 7079

◆

EDITOR COTTON:

Relative to the inquiry of "CONTRIBUTOR No. 7068" on page 109 of the May issue of COTTON who has asked for a method of handling various types of colored filling in the weave room, will say that we have the same problem and that we have a series of bins arranged for different colors of each number. The yarn is dumped into these bins in the proper place as it comes from our spinning frames. The filling haulers from the weave room get their supply from these bins to be delivered to filling boxes at looms. The weave room filling boxes have different compartments so that the yarn is not mixed insofar as number or color is concerned.

CONTRIBUTOR No. 7080

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First Impressions and the Human Element

EDITOR COTTON:

On page 96 of the March 1940 issue of COTTON appeared a letter addressed to yours truly in which "CONTRIBUTOR No. 7041" said that "any system which involves too many factors cannot become practical, because one has to cope with something which is called 'the human element' ". This was written in answer to an article I had written in the October 1939 issue explaining the art of drafting to textile school students.

His wise crack reminds me of Socrates. Socrates, when asked how he would secure properly trained citizens for his ideal state, replied that he would send away all those who were more than 10 years of age and begin with those that were left. Therefore, let me remind "CONTRIBUTOR No. 7041" that in all ages, apparently, wise men recognized the importance of early impressions, more so than "the human element". The former gives one ideas with the object on the mind, which is found in my October article, while the latter is only a principle.

When I prepared the letter for the October issue I had in mind the Cross-Index of COTTON. Textile school students will in a short time become overseers, superintendents or managers and should they keep their back numbers of COTTON and get past that human element, and get caught in the swirl of impressions, then what is conveyed by our valued contributors will be understood.

The importance of early impressions is a fact which our society continues to emphasize, hence its anxiety to encourage the work in all schools and institutions for the young.

WASH (R. I.)

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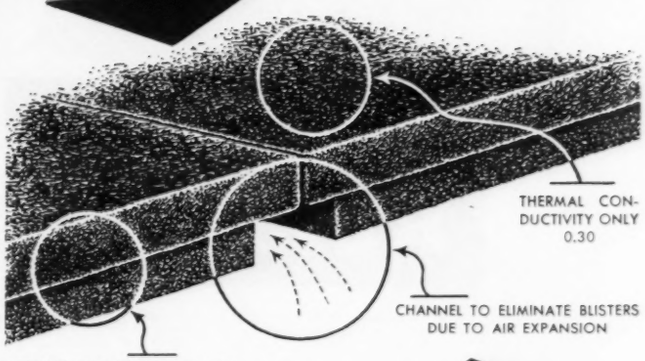
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Washboard Shuttles

EDITOR COTTON:

I have read with interest the question on page 87 of the March 1940 issue of COTTON, wherein "CONTRIBUTOR NO. 7033" asks for the causes of wavy or washboard shuttles.

In my opinion this trouble can usually be traced to the fact that washboard shuttles are those that have not been boxed properly, and are found also on looms on which the picker has not been paralleled. The picking motion not being timed right will also cause washboarding.

I think the article "Checking the Loom to Install New Shuttle" on page 94 of the same issue will give a pretty definite answer to the question of remedying washboard shuttles, except that this article does not take into consideration that the use of an unfinished reed will also washboard the shuttle. A new unfinished reed will very likely wear ridges on the back of the shuttle even though the reed and the back boxes are squared and in perfect alignment.

Going further into the discussion of washboarded shuttles, it is an established fact that the loom lay travels at its highest speed when on top center. Therefore, the shuttle should begin to move when the crank is on top center. As the crank moves toward back center the speed of the lay is reduced, but the shuttle is also losing speed as it passes through the shed, which occurs at the same time as when the lay is losing speed—this fact allows the shuttle to keep close to the reed all the way across without having any slapping effect. If the shuttle starts to move at the proper time then it can readily be seen that the lay and the shuttle will run in conformity with each other. If the pick is too early then the shuttle will have to force its way into the shed before it is open to receive it, thereby causing the speed of the shuttle to be checked and very often causing warp ends to be broken.

On the other hand, if the pick is too late the shed will close on the shuttle before it gets into the opposite box. Sometimes an improper setting like this will cause the loom to slam off.

Finding Cause of Slam-Off

When I was fixing looms and went to one that had been flagged for slamming-off, and could not see immediately what the trouble was, I would always check the setting of the protector rod finger in regards to the binder, at the same time glancing at the binder spring to see that it was set right. Next I would push the shuttle into the box and put the lay on front center to check the setting of the lug straps and to determine if they were securely fastened; while looking there I would glance at the pick arm and feel the heel bolt to see if it were loose. With the loom in this same position I would feel the pick ball and cam toe for looseness. Next I would turn the loom to see if it could be picking early or late. If the trouble had not been found by this time. I would closely examine both ends of the loom for other troubles.

CONTRIBUTOR NO. 7106

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213. Saco-Lowell Cotton Machinery—Twisting—a 31 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

253. Bown Air-O-Line Controllers — This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting—24 page booklet showing the new American MonoRail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa.

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

271. The New American Adjustable Diameter Wodgebelt Pulleys—illustrated leaflet describing the American adjustable diameter sheaves designed to produce the best performance in all types of V-belt driven textile machinery. American Pulley Co., Philadelphia, Pa.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the names and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

284. Morton Nickel Iron Quick Opening Handle Gate Valve—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim. Morton Machine Works, Columbus, Georgia.

286. Triton W-30—Study of wetting agents and their activity with recommendations for textile processing. Rohm & Haas Co., Philadelphia, Pa.

289. Caustic Soda Bulletin—a data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas. Pennsylvania Salt Mfg. Co., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

290. Hyatt Roller Bearings on Textile Machinery of All Kinds—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery. Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

295. Fence Facts—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence. Page Fence Association, Bridgeport, Conn.

296. Full-Fashioned Hosiery Manufacture — Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery. Gulf Oil Corporation, Pittsburgh, Pa.

301. Norma-Hoffmann Bearings Catalog — Norma-Hoffmann Bearings Corp., Stamford, Conn.

305. Tannate Belting — leaflet describing Rhoads Tannate leather belts and their uses and advantages in textile mill operation. J. E. Rhoads & Sons, Philadelphia, Pa.

307. Lane Canvas Baskets—16 page illustrated booklet describing the Lane line of canvas baskets for textile use. W. T. Lane & Brothers, Poughkeepsie, N. Y.

308. Finnell Scrubbers—illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines. Finnell System, Inc., Elkhart, Ind.

311. The Romance of Prairie Gold—attractive illustrated book which tells the story of corn and the uses of corn products in industry. Corn Products Sales Co., New York, N. Y.

312. Cork—The Modern Roll Covering—attractive booklet outlining the uses and advantages of cork for textile roll covering. Armstrong Cork Products Co., Industrial Division, Textile Products Section, Lancaster, Pa.

314. Winding Production Chart—this useful production chart can be used for any style of winder. Also included are instructions for figuring yarn takeup speeds. Universal Winding Co., Providence, Rhode Island.

315. How Handling Problems Have Been Solved—a 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes. American MonoRail Company, 13106 Athens Ave., Cleveland, Ohio.

317. Circular Knitting Machines—a fifty-two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, selvage welt, loose course and methods of laying in Lastex. Sent free on request to Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

322. The Application of Soaps and Soap Products to Textile Processing—40-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

323. Textile Processing with Artic Syntex A and T—50-page illustrated booklet describing the properties of these new materials and giving tentative or suggested formulas for a number of applications in textile processing. Colgate-Palmolive-Peet Co., Jersey City, New Jersey.

327. Sanforizing Machinery—illustrated booklet describing the sanforizing machinery offered by the Textile Finishing Machinery Co., Providence, R. I. This bulletin is available only to finishing plants or executives thereof.

328. SKF Ball and Roller Bearing Transmission Appliances—84 pages, 100 illustrations, descriptions and dimensions of universal, unit, split and roller bearing pillow blocks, ball bearing drop and post hangers, take-up boxes. Suggestions and dimensional and load data for bearings also given. SKF Industries, Inc., Philadelphia, Pa.

330. Tools for the Textile Trade—a twelve-page booklet illustrating and describing specially selected tools for all textile mill departments—Loom Fixers, Spinning Room Fixers, etc. Snap-on Tools Corporation, Kenosha, Wisc.

331. Unbrako Self-Locking Hollow Set Screw—Bulletin Form 532 includes illustration and descriptive matter of this latest improvement in socket and screws. This bulletin also features the complete line of "Unbrako" Socket Screws. Standard Pressed Steel Co., Jenkintown, Pa.

332. Hard Maple Flooring—an 8½ x 11-inch folder featuring a close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for the convenience of architects, builders and others when considering flooring grade requirements. Maple Flooring Mfrs. Assn., 332 South Michigan Ave., Chicago, Ill.

333. Fafnir Ball Bearings for the Textile Industry—Outlining the applications and advantages of ball bearings on textile machinery. Fafnir Bearing Co., New Britain, Conn.

334. Precision Winding for Silk and Rayon Yarns—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. Universal Winding Co., P. O. Box 1605, Providence, R. I.

335. Casters and Wheels—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this. Darnell Corp., Ltd., P. O. Box 4027-N, Station B, Long Beach, California.

337. Sizing and Finishing—A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing. Stein, Hall & Co., Inc., New York City.

338. Thickening Materials for Textile Printing—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine. Stein, Hall & Co., Inc., New York City.

340. Notes on Cotton Warp Sizing—a 45-page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address The Hart Products Corp., 1440 Broadway, New York City.

343. SKF Better Spinning and Twisting—16-page illustrated catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous pulley and bearing applications. Distributed by all leading textile machinery manufacturers and SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

346. Dependable Finishing for Modern Elastic Top Hosiery—describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery. Union Special Machine Company, 400 North Franklin St., Chicago, Ill.

347. Rhoplex Resins—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles. Rohm & Haas Co., Inc., Philadelphia, Pa.

348. Johnson Ledaloyl Bearing Bronze—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. Johnson Bronze Company, New Castle, Pa.

349. Preview—12 page illustrated booklet describing the Best Universal Locking System which features the interchangeable core and offers a solution to locking problems. Best Universal Lock Co., Indianapolis, Ind.

350. Theoretical and Applied Silk-Soaking—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigations on the soaking, backwinding and degumming of silk. Hart Products Corp., New York City.

351. Wetsit—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths. Jacques Wolf & Co., Passaic, N. J.

352. Lupomin—Leaflet describing Lupomin, a new cation active softening agent for all textiles but especially acetates and rayon crepes; odorless, permanent and easily applied; imparts soft, full feel. Jacques Wolf & Co., Passaic, N. J.

353. Luposec—Leaflet describing Luposec, a waterproofing agent with great stability; soluble in cold or warm water at all temperatures; suitable for all fibres and especially effective in splash-proofing silk hosiery. Jacques Wolf & Co., Passaic, N. J.

354. Vacuum Cup Pulleys—Leaflet describing the new Vacuum Cup Pulley which gives greater production, less power cost, less maintenance cost, and much longer life to belts and bearings. Vacuum Cup Metal Pulley Company, Inc., Detroit, Mich.

355. Air Conditioning in Cotton Spinning—A technical discussion of the need of adequate humidification and controlled air change in the spinning room of the textile mill of today. As for Bulletin 539. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

356. Parks Textile Specialties—A 14-page bulletin with brief descriptions of the Parks line—Automatic Airchanger—Central Station and Unit Air Conditioners—High Duty, Turbo and Turbomatic Humidifiers—Automatic Regulation—Traveling Cleaners—Portable Dustless Card Stripper—Humidifier Valves and Accessories. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

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357. Caro-Gant—The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant the Warp Dressing that makes stronger more elastic warps with a maximum breaking strength and a minimum reduction in elasticity. Hart Products Corp., New York City.

358. Rhonite Emulsions—Attractive bulletin describing the Rohm & Haas complete line of Urea Formaldehyde Resins for Textile Finishing. Rohm & Haas Co., Philadelphia, Pa.

371. Thaumaphos — The textile detergent — Seven page booklet describing Thaumaphos, the wonderful phosphate. Included is a list of the Thauma brands and a survey of their uses in the wet finishing of textiles. Detergent Products Corp., Atlanta, Ga.

362. Leather Belting Calculator—Handy and attractive calculator for determining belt speeds, horsepower per inch of belt widths, etc., will be sent free on request. J. E. Rhoads & Sons, Philadelphia, Pa.

363. Form 769, Condensed Catalog—a 40 page pocket size booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

364. The Superlock—Form 828—an attractive two-color illustrated 6-page folder describing the "Fastest Overseaming Machine in the World." Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

365. Catalog No. C-306—a 32 page Standard Conveyor booklet showing numerous actual installation photographs on roller, belt, slat, chain, wheel, live roller, push bar and vertical lift conveyors—also spiral chutes, tiering machines, portable pilers, lower-lifts, record lifts and pneumatic tube systems. Standard Conveyor Co., North St., St. Paul, Minn.

366. Houghto-Size SR—Leaflet describing a new sizing compound for spun rayon warps which provides high breaking strength, greater elasticity and increased weave-room production at low cost. E. F. Houghton & Co., Philadelphia, Pa.

367. Rayon Oils—Leaflet describing three Houghton products used for throwing rayon filling yarns for weaving, as softeners in gelatin and similar solutions used for sizing and as softening oils for yarns, knitted and woven fabrics. E. F. Houghton & Co., Philadelphia, Pa.

368. Surfax W.O.—Leaflet describing a new surface-active chemical which possesses unusual wetting out and softening properties. E. F. Houghton and Company, Philadelphia, Pa.

369. Lunkenheimer Catalog 78—136 page catalog describing a complete line of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and other specialties. Also included is a section on the thermo-dynamic properties of steam, and a table of shipping weights. The Lunkenheimer Co., Cincinnati, Ohio.

370. Notes on Exsize—Attractive new booklet describing the use of Exsize for desizing fabrics. Included is a review of general sizing and finishing and a flow chart showing the cotton and rayon finishing processes. Pabst Sales Company, 221 North LaSalle St., Chicago, Ill.

371. Aluminum in the Chemical Industry — Published by Aluminum Company of America. Fifty-two pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. Aluminum Company of America, Pittsburgh, Pa.

372. Stewart Fences—Illustrated catalog which is a complete text on the subject of fence for industrial uses. Stewart Iron Works Company, Inc., Covington, Kentucky.

373. The Bowen Spinner's Record Book—Handy leather bound notebook which contains a world of useful information as well as tables for keeping accurate spinning data. U. S. Ring Traveler Company, Providence, R. I.

374. Fidelity Spooling Machines—Illustrated booklet describing the Fidelity Spooling Machine and outlining its many applications in the textile industry. Fidelity Machine Company, Philadelphia, Pa.

375. The Fidelity 3 Carrier Back Winder—Folders describing this new backwinder which is used to recover silk in press-offs from full fashioned three carrier leggers. Fidelity Machine Co., Philadelphia, Pennsylvania.

376. Leather Booklet No. 202—Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, etc. Also describes BONDARON Special Tanned Solid Round Leather Belting, Flat Belting and Standard Oak Tanned variety of Leather Belting. Chas. Bond Co., Philadelphia, Pa.

377. The Morton System—Illustrated literature describing the Morton Improved double circulating raw stock dyeing and bleaching machine, the Morton horizontal revolving beam and package dyeing machine and beam bleaching machine, the Morton vertical package and roving dyeing machine. Morton Machine Works, Columbus, Ga.

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385. Sewing Machines—Illustrated technical booklets on high speed lock-stitch sewing machines for all types of work. Singer Sewing Machine Co., 149 Broadway, New York City.

386. The Xynomines—36 page book describing the theory and practice of wetting out and scouring for the dyer and textile technician. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

387. Phi-Sol—32 page book describing the latest scientific developments and thoughts on dye assistants and penetrants. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

388. Key Products for Textile Industry—22 page leaflet describing textile specialties used in dyeing, bleaching, and finishing as applied to Southern textile industry from Southern plants of American Cyanamid & Chemical Corp., 822 West Morehead St., Charlotte, N. C.

389. Fibre Conditioning with Texspray Compound—30 page booklet on treating of cotton or cut staple fibers with Texspray Compound including the advantages and development of fiber conditioning. The Texas Co., 135 E. 42nd St., New York City.

30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—24 page bulletin describing bearing installations for practically every machine in the textile industry including roller bearing spindle and tension pulley. SKF Industries, Inc., Philadelphia, Pa.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

110. 3-In-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., Jersey City, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

139. Textile Detergents—Theory of the use of alkalis and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

154. Johnson Bronze Bulletin No. 340—showing over 300 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying and Finishing Maple Floors—Maple Flooring Manufacturers' Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, P. O. Box 1605, Providence, R. I.

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168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

176. Sonoco Products—A 60 page illustrated booklet giving descriptions, specifications and charts of the many Sonoco products, including bobbins, cones, tubes, cork cots, roving cans, spools, rolls, etc. Sonoco Products Co., Hartsville, S. C.

184. Speed Control Handbook T-35—new reference book on variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

185. Dulux—The White Finish That Stays White—New book describing the new ten-point finish for factory walls and ceilings, the finish that stays whiter, stays cleaner and stands repeated washing. E. I. du Pont de Nemours & Co., Finishes Division, Wilmington, Del.

187. The Wildman Single-Head Full-Fashioned Hosiery Machine—Literature on request from the Wildman Mfg. Co., Full-Fashioned Division, Norristown, Pa.

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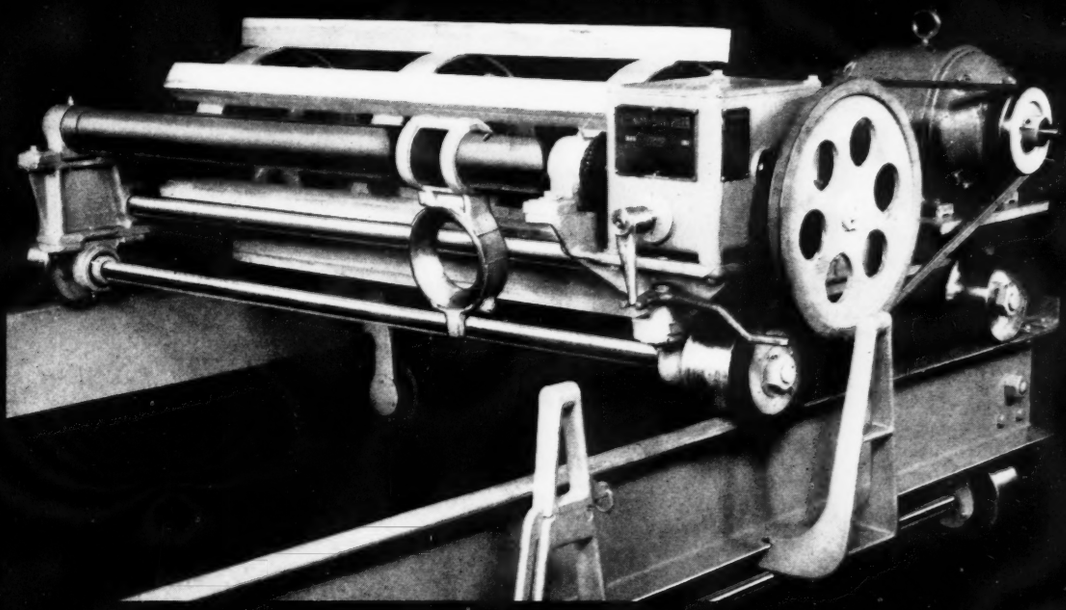

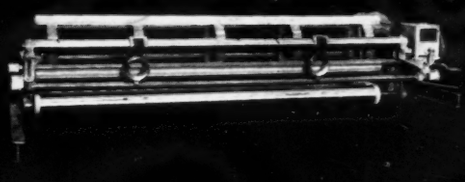

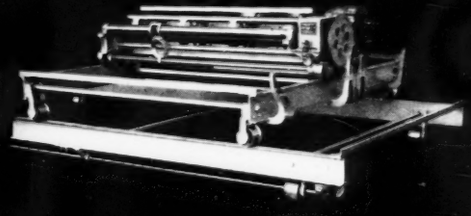

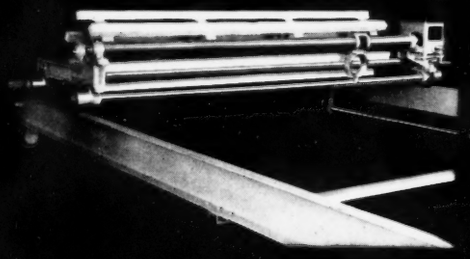

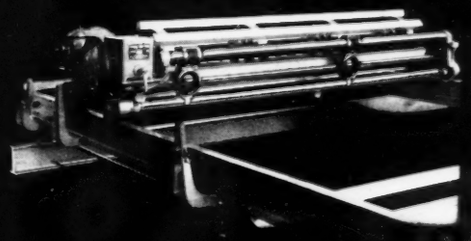

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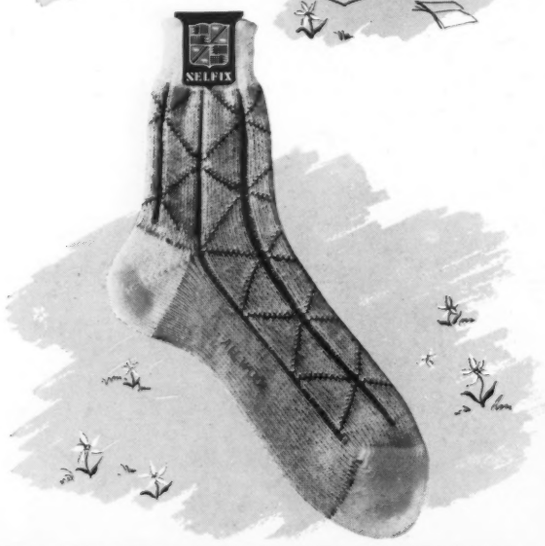
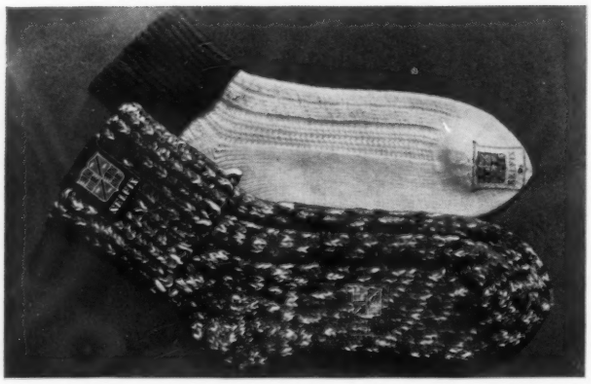
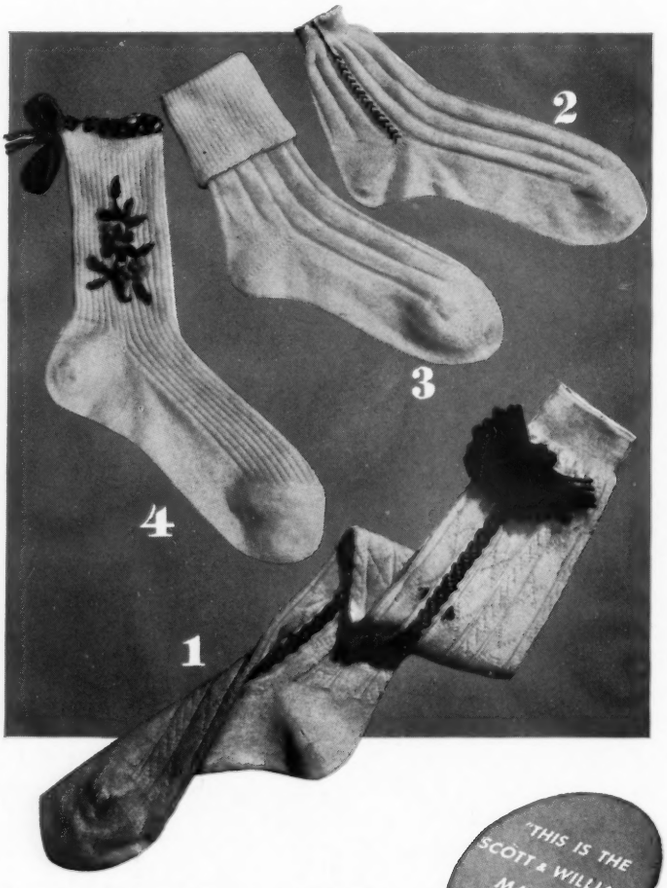
KNITTING CIRCULAR



What will the college girl wear this fall? That's what the editors of MADEMOISELLE wanted to know. So they invited young women from the leading colleges to come to New York and get out the college number of the magicine. The clothes featured by these student editors represent the tastes and demands of students at colleges where styles are set. The consensus of opinion was all in favor of the high socks made on the Scott & Williams Komet and Komet Links-and-Links machines—some plain, some with embellishments. They like their warmth and bulk that harmonizes with the bulky footwear now in vogue. Of the types chosen one was a wool sock with ribs tied to resemble a cable stitch and bright colored wool yarn run in by hand. Another was a rib with a cord and tassel of two colors run in by hand up the front. A third was a green sock with a large red argyle pattern. At the coeducational colleges many students prefer to wear the knee sock over a silk stocking. The high sock combined with the bare leg silk stocking, recently featured in the Knitting Circular, has now assumed the proportions of a selling idea.

Brand new and of importance to hosiery stylists and manufacturers is the clock idea which has just made its appearance in women's sports hose. Illustrating the student editors' choice is the Brown-Durrell Links-and-Links high sock shown in bottom group No. 1. It is white wool with a hand run two-color oversized clock at the side, finished at the top with two small contrasting tassels. One of the girls' choices in clocked anklets is No. 2, the Brown-Durrell white ribbed wool anklet with a red and blue hand run featherstitch clock pattern, an idea that can be further developed in wrap clocks. Another choice is the ribbed wool sock embroidered with gay wool flowers—clock fashion, No. 4. This is from the Shepherd Knit-wear Company. Illustrated, too, is a perennially popular number—a broad ribbed angora anklet with cuff, from Le Roi, No. 3.





New length women's slacks resembling those for men were voted in by the college editors. Illustrated above is one that is typical of the selection, a 72 needle Links-and-Links plaited 7½" slack sock between a men's slack and women's anklet in length. Shown beneath it are a 72 needle white Links-and-Links anklet with colored cuff and a heavy Komet ski sock, 48 needle, of random dyed yarn in red, white and blue. All are "Selfix" socks from Massachusetts Textile Company.

Scott & Williams will be glad to send you further information on the hose shown here and the machines on which they can be made.

SCOTT & WILLIAMS, INC., 40 Worth Street, New York, N. Y.

Established 1865

KNITTING SECTION

An Employee Views Management in the Hosiery Industry

"Them be harsh words" will be the comment of some executives that read this article. It was written by a machine fixer and appears here without modification. This man may work in your plant, or you may have others that are of his opinion. The editors claim no responsibility for the ideas—the article came in "over the transom". It is presented because this man is an employee, and the editors believe management will want to know what an employee thinks.

DURING recent years national legislation has brought a decided change in industrial conditions. Wages have been raised, hours of work lessened, child labor laws more strict, old age benefits and unemployment compensation have been introduced. A loud cry of protest was uttered by industry, and in the textile field probably the loudest cry was made by the hosiery manufacturers. From this we might assume that they were the hardest hit, but possibly it was because this particular branch was not classed as a leading industry and, unnoticed, had had things pretty much their own way and did not want their affairs looked into. Noticeable is the fact that the individuals who squawked the most were the ones who annually showed the highest net profits and also made the fewest improvements. Nevertheless, the changes took place and industry answered by speeding up methods of production with new machinery so as to get the same amount of production they had been used to, but at the same old cost. In their hurry to gain a jump on their competitors they absolutely ignored and overlooked many small uncostly but necessary items that, with improvement, would tend to balance the entire system with efficiency.

It can be said here that no noise whatsoever was made by the employees when deductions were made from their pay envelopes for Social Security funds. This goes to prove that we, of the majority, as a body are more receptive to advice and improvements that better our conditions than are our employers. In this day and time, when conditions in all parts of the world are flashing across our American skies like lightning, more thought must be given to united freedom and less to personal liberties. It is a known fact that kindness breeds in the home, so if employers can get their employees to feel that they are all working together for the benefit of everyone concerned they truly will be started on the road to recovery.

The foregoing mentioned "we, of the majority" means exactly what it insinuates, that the writer is one of the majority which is the working class. Having worked and visited in hosiery mills in several states and sections of the country a clear picture of conditions by comparison is the result. It is extremely noticeable that the mills which have *modernized throughout* are enjoying the best of present business conditions.

The hosiery industry, particularly in the South, has repeatedly been warned that unless it betters working and living conditions for its employees it would eventually have labor trouble. A survey of other industries shows that with increased wages of late years labor organizations had little or no trouble in getting a foothold, but as soon as the evils of suppression were erased conditions got back to normal. A pat on the back, a little encouragement, and collective and individual recognition go a long, long way with the working people. The southern manufacturer, with his genteel class of working people, devoid of foreign element, really has the world by the tail on a downhill pull if he'll only put out a little effort to get acquainted with his employees.

The general attitude toward textile employees is that they are just "hands" and not capable of any profitable thinking. The truth is that if they are given half a chance and a little encouragement they could pave the way to a congenial and smooth running organization by pointing out and helping to overcome many minor difficulties that are invisible to the inexperienced executive. Occasionally a mill is found in which little "suggestion boxes" are located for the purpose of encouraging the employees. This is a very nice gesture and would prove helpful if carried out properly. In most cases the individual is called into the office and the weaknesses of his suggestion pointed out to him and that is the end of it.

Encourage the workers to make suggestions as a body, to get together and talk things over so that the suggested changes are for the betterment of the entire group and the company instead of for just one or two individuals. Many items of importance would look entirely different to the management if seen through the eyes of the employees and vice-versa.

An up and coming organization today is the one that possesses

company spirit. This can only be accomplished by friendliness, sociability and recognition of achievement. This not only means recognition of good work, but also of personal being. The mill owner should make a litle more effort to know his employees. The finest thing to hear in a mill is, "He's a great boss. Treats everyone alike and treats them all human." How many mill executives today have had that said about them?

Social gatherings such as sports, clubs, and outings are the best ways of attaining company spirit if they are attended and encouraged by the management. What are a few dollars spent for a little music, some refreshments, or a few baseball uniforms when the result is one big happy and contented family of workers all pulling together toward the same end

Modernization Ideas

As has been said, modernization of a manufacturing system does not mean merely the installation of new machinery. Everything in the entire plant should be changed to conform with the new and improved equipment. All the different operations and methods of handling work and help should be completely overhauled to bring them up to par with the machines on the basis of convenience and efficiency.

First in importance is location of the new equipment. Place it where it will be convenient for cleaning and repairing and handy for all supplementary operations, with an eye to a firm foundation so as to eliminate any unnecessarp vibration. Rearrangement of and possibly additional lighting and ventilating facilities should be taken into consideration, for not only are they necessary to up-to-date efficiency, but they also go toward having contented operators.

A recent visit to various mills now installing new equipment bears out these many points. One of the most important items needing modernization is toilet facilities. The lack of adequate sanitary conditions is surprising. How can the state health department let such things go unnoticed? How can a worker feel anything but contempt when he knows his employer has the most modern and sanitary conditions in his home and still compels his employees to habitate such uncleanliness?

To modernize a business completely it would be well to start with the personnel. In the majority of cases the owner or manager of a hosiery mill knows very little about the actual operations performed in his plant, although he may be an expert at business. He hires a superintendent and turns the place over to him in full trust. In setting up his own system this particular "super" brings in several hands that have worked for him on some other job. Immediately there is friction among the employees. These new employees may not be any better or as good workers as the old, but for purely personal reasons they are given the breaks and, in our own lingo, the "gravy", and discontent grows. If it is at all possible, the head of the firm should interview all applicants and should pick them for the particular kind of work he has for them.

The merit and promotion system is the most successful for a growing concern. If an employee does his work willingly and well, let him know it and also that he has something to work to instead of seeing new men being hired over him. As most jobs in a hosiery mill have something to do with machinery the men should be selected for their mechanical ability. Also, they should be picked for their alert minds, personal habits, ambitions, and willingness to cooperate with others.

"Family System" Taboo

Too many overseers hire their help for personal reasons and a great many make a practice of working all their relatives. The "family" system has been known to ruin many a fine business regardless of its nature. Instances have come to light in which many a worker was actually paying for his job, not in cash exactly, but by taking the boss on hunting and fishing trips, giving him expensive gifts and parties, furnishing his drinking liquor, or feeding him out of his small and hard-worked garden.

One mill man was heard to say, "I hired him because he was so quiet and easy," and the employee continued to be so quiet and easy he didn't learn a thing about the business. So, for the success and future of your business, get acquainted with your employees; pick the man for the job and do not alter the job to fit the man.

In watching the manner in which some textile establishments go about modernizing their business, a bit of a smile on the face of an observer is excusable. Just for example—take the overseer of a medium sized hosiery mill in any locality. He has been driving his old car for several years and because the newer models look better and operate more cheaply he buys a new one. He treats it like a baby. He follows the manufacturer's instructions to the letter and then some. The car is not driven over the specified speed until it is well broken in, everything about it is checked every week or so, and it is cleaned and polished regularly. He won't use an inferior grade of fuel, and if some little something needs working on only the best garage and best mechanics do it.

But, in his mill he buys new machines of the latest make, puts them in a dark corner of the knitting room on an old and sagging floor. He tries out all the sample yarns he can get and usually ends up by using the cheapest. Instead of picking out the best operators and fixers from his older machines and giving them a chance to progress and learn, he probably selects them for personal reasons or hires outsiders he knows nothing about. The cleaning and oiling of the new equipment is left entirely up to the discretion of the attendants with not a thought as to the proper grade and method of lubrication. The manufacturer's recommendation for running speed is entirely too slow for production so the line is speeded up and whatever the results might be they are blamed on the machine. Yet each and every machine costs twice as much, or more, than the new car, has no trade-in value, and must continue to run producing good work for years and years at a minimum cost.

Without a doubt, there is always some difference of opinion between the writer and the reader, but these are conditions in the hosiery industry as seen through the eyes of an employee.

Bacteria in Soaking Bath Affects Tinting

RECENTLY, some throwsters have experienced at times, a peculiar condition in soaking thrown silk. The condition consists of a fading of the fugitive tint used to identify the yarn while the silk is in the soaking bath. This fading may show itself as a complete decolorization of the tint so that it would appear that no fugitive tint had been added or it may produce a distinct color change. A green tint may have been added to the bath and subsequently changed over to a red shade.

As previously stated, this fading takes place in the soaking bath but only after a period of time. When the yarn is first soaked, the color behaves normally. However, after a period of several hours, the color begins to fade. In some instances, the color was found to be satisfactory for nine hours but after twelve hours soaking, the yarn had become colorless. The color of the soaking bath likewise lost its original tint.

Examination of the ingredients of the soaking solution, the pH of the bath and an analysis of the water was made in an effort to determine the presence of any substances which might be the cause of this reaction. However, the results of these examinations failed to disclose any irregularities which would account for the condition.

Further investigation tended to indicate that the silk was the offending party. It was found that certain lots of silk produced this reaction more than others. In one instance where three tubs of silk were soaked at the same time in which enough soaking solution containing the same tint and oil, to soak all three tubs was prepared, the one tub of silk came out satisfactorily, the other showed partial stripping and the third showed complete fading as if no tint had been used. It was felt that this condition was caused by the presence of bacteria in the soaking bath. It was not possible to state definitely the origin of this bacteria. It may have been present on the original raw silk, picked up in the plant or caused by one of the soaking ingredients. However, the absence of any stripping in one of the soakings tended to preclude this latter possibility. This bacteria created a reducing action in the soaking bath which acted upon the tint causing varying degrees of stripping of the color and in some instances, the color was completely removed. In other cases, this reducing or stripping action had so affected certain ingredients in the tints that the resultant tinting had been changed to an entirely different color.

In most of the cases, the usual amount of the mildew preventative ordinarily employed had been used. The nature and character of the mildew preventatives were such that they did not counteract the resultant bacteria reaction under the conditions encountered.

Certain phenolic derivatives, halogenated, phenylated compounds were found to be effective in counteracting bacteria micro-organisms. One means of overcoming the above difficulty is to add a sufficient quantity of this type of preventative to the soaking bath.

In conjunction with this type of mildew preventative, a minor change in the circulating apparatus, when tub soaking, also greatly assisted in offsetting this reducing action. Instead of the recirculated liquor exiting from the set-up usually used where the liquor is passed directly onto the silk, the position of the exits were changed. The pipes containing the exit holes were turned around so that the holes faced upward or away from the soaking tub instead of towards the bath. This arrangement formed a "fountain" of the soaking solution, causing the liquor to pass up into the air and then dropping onto the silk producing an "aerating" action. In this way, the liquor absorbed oxygen from the air which tended to counteract the reducing action of the bacterial present in the soaking bath. The distance of the height of the liquor before falling should be at least a foot and the efficiency would be greatly increased by "spray head" set-ups instead of just perforations in the pipe lines. In addition, the liquor should be recirculated during the entire soaking period so as to retard, as much as possible, any reducing tendencies due to the presence of bacteria in the soaking bath.

A. J. KELLNER
United States Testing Co. Inc.

Further Comment on "Commission Knitting"

ON PAGE 125 of the June 1940 issue of "Cotton" appeared an article entitled "Commission Knitting", in which several mill men told of their systems for handling the knitting of goods on a commission basis. The following article was prepared for "Cotton" by F. G. Boye of the United States Testing Company, in reply to the original question:

Due to the lack of rules giving a definite procedure for calculating a knitter's clearance, various methods of determining the amount of yarn returned in the form of hosiery are being used.

The method of determining the weight of thrown silk yarn has been established for many years and, therefore, the amount of silk delivered to the hosiery mill can be fixed but the trade has been lax in not setting up a similar procedure to determine the amount of yarn returned in hosiery. As a result various methods of computing the weight of hosiery are being used with many of the interested parties using the one which seems most favorable to themselves.

It is a common practice to make a hosiery weight test and apply

the results to an unlimited quantity of silk, disregarding possible variations that may occur from one lot of silk to another.

There are a number of methods being used to compute the weight of hosiery while there are only one or two that warrant consideration. The procedure of sampling is practically the same in all methods in that five dozen pairs of stockings are weighed and from these an average weight stocking is selected for the test. The methods most frequently used are:

1. Net weight (also referred to as "as received"). The five dozen pairs of stockings are placed in a standard atmosphere for several hours and after selecting the average stocking it is broken down into its various parts, weighed and reported in ounces per dozen pairs. No adjustment or boil-off determination is made. By this method it is assumed that the moisture regain is 11 per cent after the stocking has been exposed to standard atmospheric conditions. The moisture, however, may vary as much as 2 per cent depending upon how accurately the relative humidity is maintained.

The weight of the hosiery calculated on the above basis is frequently incorrectly compared with the invoice weight of the thrown silk.

2. Conditioned weight. The five dozen pairs of stockings are weighed as received and the average weight stocking after being broken down is placed in a conditioning oven and reduced to a dry weight. To the dry weight of the various parts a regain of 11 per cent is added. Like method 1 no adjustment is made for the boil-off.

Here again we have no basis of comparison for the hosiery and the thrown silk because the thrown silk is calculated on a corrected weight basis, i.e., a regain of 11 per cent for moisture and a stipulated boil-off percentage. It is seldom that the weight of thrown silk is reported on conditioned weight only because this weight alone has no value.

3. The boil-off is sometimes applied to Methods 1 and 2 by selecting an additional stocking, determining its boil-off percentage and deducting same from the weights obtained and then adding the stipulated boil-off.

This method is definitely incorrect because the composite boil-off of different silks which are in the stocking in varying amounts is applied to each thread with the result that the actual weight of a thread may be incorrectly reported.

4. Certified hosiery weight. This method which is more accurate than the other methods is preferred. Five dozen pairs of stockings are weighed as received and an average stocking selected. This sample stocking is boiled off, broken down into its various parts and then reduced to a dry weight in a conditioning oven. To the dry weights are added the regain of 11 per cent and the stimplated boil-off. Building up the corrected weight of the parts from the dry fiber weight eliminates possible error which may be due to variation in moisture or boil-off obtained from additional stockings selected from the lot for this purpose.

The total weight of the silk used in the stockings may be computed by applying the results to the number of dozens returned by the knitter. However, a more accurate method is to have the testing company weigh all the stockings returned and apply the results of the tested stockings proportionately to the weight of all the stockings. The waste is the difference between the certified weight of the thrown silk sent to the knitter and the certified weight of the stockings returned.

An Eye on the Knitting Mills

A box factory, to cost approximately $30,000, will be erected by May Hosiery Mills, Burlington, N. C. It will be located in the company's three-story annex recently constructed adjoining the main plant.

Atlas Knitting Mills, a new concern, has started operations on infants' hose at a new plant in South Pittsburg, Tenn. W. L. Tate, Formerly of McAllister Hosiery Mills, Chattanooga, Tenn., is manager.

Davis Full-Fashioned Hosiery Mill, Greenville, N. C., has purchased a new Fletcher 40-inch automatic extractor for their dyeing and finishing plant from F. W. Warrington Company, Charlotte, N. C.

McEwen Knitting Co., Burlington, N. C., will be merged with the May Hosiery Mills of Burlington, subject to stockholders' approval on August 15. The merger will bring together assets valued at more than $4,800,000.

Herbert Hosiery Mills, Inc., Norristown, Pa., have purchased the buildings of Century-Beverly Corp., in the same city, and will move to the larger quarters.

Louis Lavitt Co. and Knit-Sox Hosiery Mills, Hickory, N. C., will erect a two story building adjacent to the present plant.

An addition to the finishing department, which doubles the capacity, has been made at the Waldensian Hosiery Mills, Valdese, N. C.

Mountain City Knitting Mills, Chattanooga, Tenn., manufacturers since 1917 of men's half-hose, have decided to liquidate the business.

A finishing department will be added to the Bisher Hosiery Mill, manufacturers of children's anklets, Denton, N. C.

Kay Toe Hosiery Mills, North Wales, Pa., have opened their new branch plant at Kulpsville, Pa.

Gardiner-Warring Co., Florence, Ala., have purchased the property of Erwin Mfg. Co., Huntsville, Ala.

Overseer, Set an Example

The power of example is undoubtedly the greatest power you exercise as a supervisor.

Whether you will it or not, every act, attitude, and word of yours is being judged by your men. Everything you do is revealing to them the standards of workmanship, honesty, thoroughness, orderliness, and human relationship you really stand for.

If you are an old grouch they react accordingly. If you are vulgar and profane, you encourage the same traits in them. If you are indifferent to safety, they will be also. If you are particular about how you do things, they will realize that they must be particular also. If you are orderly in your habits they will take the cue from you.

Remember that every minute of the day your supervisory position sets you up as an example to all the men under you.

Whether you realize it or not, you are influencing them to be better men and better workers, or *worse* which no right-minded man wants to be.—"*Management Information*", *Elliott Service Co., Inc.*

"There is none so blind as he who wilfully shuts his eyes"
ARABIAN PROVERB

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary twenty-section forty-two gauge machine . . . *And remember: Money invested in modern machinery not only pays big dividends of itself but also serves as insurance for your total investment.*

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KNITTING KINKS

Operating and Fixing Model ES Machines

Article 13

By Emmett Starr

• This is the thirteenth article in a series* concerning the care, operation, and fixing of the Model ES machine. The series is written with the assumption that the reader has before him the S & W catalog of parts pertaining to the machine. Should you wish any particular phase of fixing discussed, the author will be glad to do so upon request through the editors . . . . . .

IN OUR two last articles we discussed the pattern mechanism and the next subject we take up will be the wrap head on the Model ES machine.

The support bracket (100107) Plate 26 which supports the entire wrap head is fastened to the latch ring. There are times when it becomes necessary to remove the head from the latch ring and when replacing same make sure that there is no dirt or butts of any kind between the latch ring and the support bracket causing the head to be tilted. Do not neglect to tighten all four support bracket screws. After replacing the wrap head, and when the machine has been operating for a short length of time, it would be advisable to re-check the support bracket screws, to make certain that they have been drawn tight. Very seldom these screws become loosened when once they have been securely fastened.

The yarn or wrap finger dial is fastened to the take-up bracket rod (11967) Plate 29. The rod is held in position by four headless setscrews; two of the screws are located just above the gear cover (100103) Plate 28 and two located beneath the take-up bracket. Occasionally you will come across a machine where the dial is a little low; this is generally caused by lowering or slamming the head down too hard at the start of knitting. To raise the dial to its proper height it will be necessary to remove the yarn tubes (11948) Plate 29 that are in front of the headless setscrews in order to loosen them so that the dial can be raised. On some machines more of this trouble will be encountered than on other machines. Where this trouble occurs frequently, remove the setscrews, raise the dial to the proper height then counter sink the take-up bracket rod—making a slight recess for the setscrews. This method of holding the rod in place has proved very satisfactory.

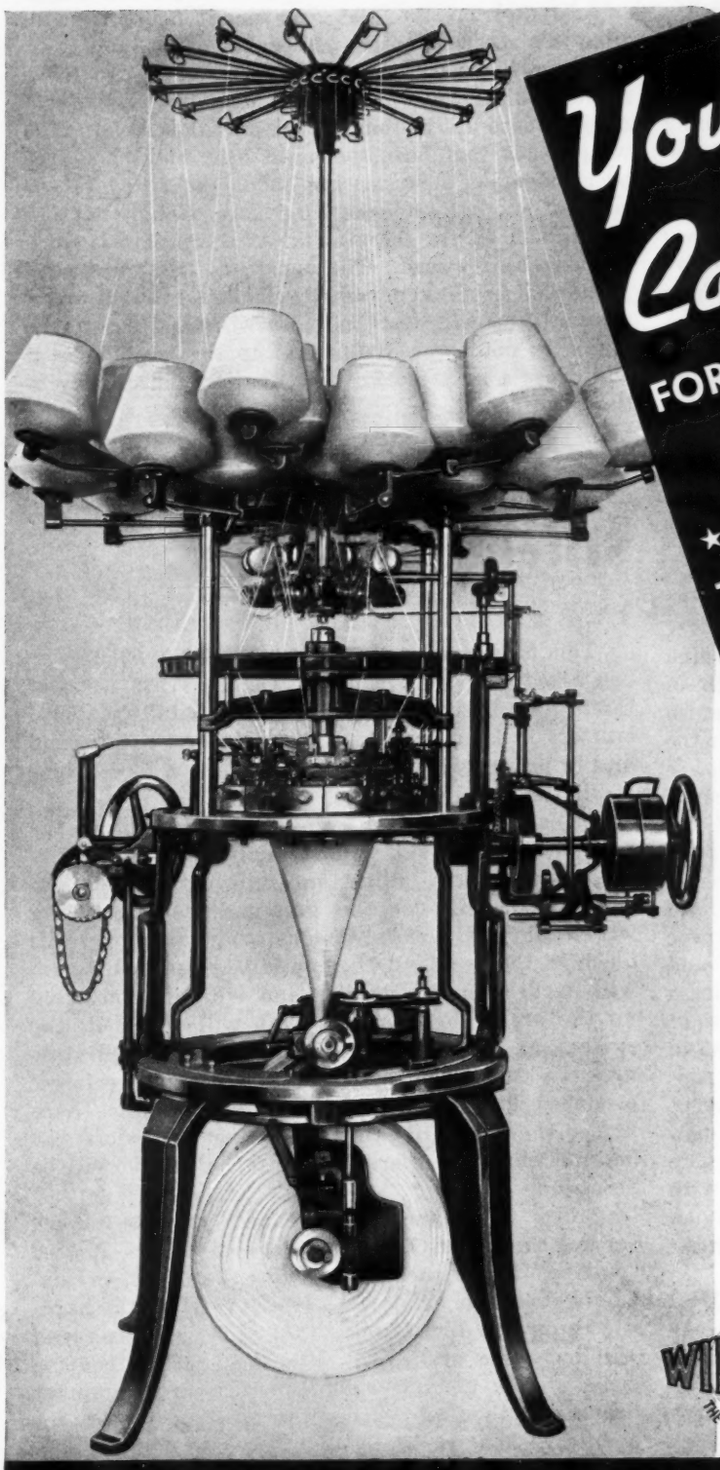
The dial has 80 slots in which the wrap fingers can be inserted. The fingers should and must move freely in the slots. Fingers that are binding are apt to have the butts knocked off as they contact the selector cam (200059) Plate 30 or they will not drop back after being pushed out by the selector cam. Those fingers that remain out will strike some part or parts of the latch ring, such as the main yarn fingers or guide wire; when this happens the fingers are likely to become bent or broken. Yarn finger springs (11966) Plate 31 must be connected with each wrap finger. These springs have an important part in controlling and aiding the fingers to function properly. When any of the springs are broken or disconnected from the fingers, such fingers not controlled and will fail to wrap the yarn around the needles as they should; also the fingers will fly outward causing the fingers to strike the various parts of the latch ring or guide wires. This will also account for the fingers that are bent or broken. Spacers or dummy fingers should be placed in the empty slots; at least one should be placed to the left of each finger. The spacers, so placed, will aid greatly in reducing the breakage or the bending of the dial walls. Broken wrap fingers can be used as spacers.

On the gear cover there are two places to oil. One is the oil tube (15649) Plate 28 there for the purpose of oiling the support bracket bearing (100105) Plate 26 and the other is a small oil hole located between two of the bobbin cup pins for oiling the pinion (11950) Plate 30 located on the support bracket extension. When oiling the machine, do not neglect to oil the wrap head. Wipe off all surplus oil that happens to get on the gear cover so that when starting up the machine this surplus oil will not be scattered all over the place. In oiling the pinion, the oil hole in the gear cover should be placed directly over the center of the pinion in order that the oil may drop in the oil hole or channel of the pinion. Proper and regular lubrication of these parts will keep the wrap head running free.

Neglecting to oil the pinion, or if the oil channel of the pinion is clogged, will prevent the oil from flowing to the bearing; or yarn winding around the pinion will make the machine turn hard. When this happens it will be necessary to remove the support bracket extension so that the pinion can be thoroughly cleaned and properly oiled. Should a machine turn hard and you are undecided just what causes it to do so, it would be best to disconnect the drive shaft sleeve (11959) Plate 30 from the pinion. If the wrap head does not turn freely when disconnected the trouble is most likely to be in the pinion, but if the head turns easily and the machine still turns hard then the trouble lies elsewhere; either in the sinker cap, needle or upper cylinder jack butts between the cylinder and the

*The other articles in this series appeared in the Knitting Section of the August, November, and December 1938 issues; the January, March, July, August, November, and December 1939 issues, and the January, March, and April 1940 issues. More will follow.

WILDMAN MULTIPLE FEED RIB MACHINE.



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NORRISTOWN, PA.

various inside cam ring cams; and then again there may be butts under the jack cam ring.

Any butts lodging between the jack cam ring and the sleeve gear are apt to make the machine turn hard most any time and they should be removed. It is possible to take them out without dismantling the machine: rack the machine to the heel or toe, remove the jack cam block, loosen the jack cam ring screws that hold the ring to the lower bed plate, apply a little oil to the sleeve gear, then turn machine slowly and watch carefully for any butts that may appear in the opening of the jack cam block. They can then be easily removed with a magnetized steel rod. When the butts cannot be dislodged in this way the next thing to do is to dismantle the machine. Strip the machine down to the lower bed plate of everything except the drive shaft bracket, lower vertical drive shaft bracket and the left spacing bracket. The jack cam ring can then be lifted high enough to clean out all butts and dirt from under it. It seems rather a big job dismantling and reassembling a machine but when it becomes necessary it has to be done. Check all parts when assembling the machine and replace all worn or broken cotter pins.

It will be less difficult when taking the support bracket extension off to remove one of the yarn tension vibrating cams (200600) Plate 28 then cut a gap an inch and a half to two inches in the edge of the gear cover, which will allow plenty of clearance for the pinion and very little trouble will be encountered in removing the bracket. Mark one of the teeth in the pinion and the opposite tooth in the ring gear so that when replacing the bracket the pinion can be placed back in its same position. When the teeth are not marked the pinion may be placed back or ahead a tooth or more; this will not allow the woodruff key to line up with the key way of the upper universal joint. It will then be necessary to loosen the bracket to reset the pinion but be careful that the wrap head will not be advanced or retarded one quarter to three quarters as this will throw the wrap fingers off and also the yarn tension vibrating cams will not release the tension on the splicing yarn when in the process of knitting the high splice and double sole. To avoid all this trouble when failing to mark the teeth, the support bracket extension can be replaced, but do not tighten, set the wrap head so that the vibrating tension cams are directly over the needles of the heel side then reset the pinion so that the key will line up with the key way of the universal joint. When the pinion is properly set do not fail to tighten the support bracket extension screws.

It will not be necessary to remove the wrap head from the machine in order to cut the gap in the gear cover but fabric or paper should be placed over and around the cylinder and the top bed plate to keep all particles of steel or filings from falling on the machine.

There are times when it becomes necessary to advance or retard the wrap head. This is done by adjusting the bevel gear pinion (10890) Plate 4 which is fastened to the bevel gear by four bevel gear pinion screws. Three of the screws hold the pinion to the gear and they should be securely fastened while the other screw is used by the bevel gear pinion adjusting screws to advance or retard the pinion; it will not be necessary for this screw to be drawn tight, but the adjusting screws should rest tight against it. If the three screws that hold the pinion to the gear are not fastened securely they will soon work loose, leaving only the one screw that is held by the adjusting screws to hold the pinion to the gear and if not noticed in time this screw is apt to be sheared off.

After the machines have been in operation for a length of time you will find that some wrap heads will develop more lost motion or back play than others. The wrap heads that have too much back play should be overhauled. A new bearing should be fitted in the support bracket extension to insure a snug but not too tight a fit for the pinion. If the pinion is worn it should be replaced. The upper and lower universal joints that have too much play should be rebuilt or replaced. You will also find that when the bevel gear pinion is not securely fastened to the bevel gear it will cause a great deal of lost motion or back play of the wrap head.

System to Keep Good Stitch Formation

EDITOR COTTON:

This is in answer to "CONTRIBUTOR NO. 6959" who has asked on page 179 of the October 1939 issue of COTTON for a system to be applied to full-fashioned knitters in keeping the needles, sinkers, points, and bits in proper working order to insure a good fabric at all times.

In order to produce a good fabric and have the knitting machine run satisfactorily, a regular schedule of cleaning, oiling and lubrication must be maintained. Silk contains gum and as the stocking is being knit a certain amount of degumming takes place on the needles. If allowed to remain this gum will harden on the needles and will, in time, clog up the sinker head slots. This will result in the sinkers and dividers sticking. Not only will this give the knitter trouble when knitting, but the fabric produced will lack a uniform and clear stitch. There is also the possibility that the sinker head slots will become worn and thereby an inferior fabric will be produced.

Sinker heads should be cleaned out once a week for one shift, or twice a week for two shifts. A good "cutting" agent such as gasoline, kerosene, or ammonia should be employed. It will cut into the hardened gum and dirt. Some of this dirt can be scraped out and some of it can be worked out by pouring some of the cutting agent in back of the sinker heads and then permitting the machine to run for awhile without yarn or silk. This will dislodge and loosen the dirt and gum accumulations, which will then work themselves out of the crevices and corners. After this has been done, and the machine is again clean and free, lubricate with a light oil. It will not be necessary to dig out and excavate the dirt so often if these parts are regularly and properly lubricated.

THEY MEAN A LOT TO ME

"Nursing is work that keeps you on your feet and on the go all day long. Naturally, I need strong, durable, comfortable hosiery—I can't afford any other kind. But I have to look neat and smart, too. So I buy stockings that are as sheer as they can be without sacrifice of strength and durability. One particular brand I know seems to have these qualities in just the right combination, so I stick to them—they save me money and trouble."

Many women are looking for hose with just the right combination of qualities. If your product measures up to their standards, you are building a good foundation of repeat business for your retail outlets. Torrington Needles, machine-made, machine-tempered and finished, will go a long way toward helping you keep your knitting standards high . . . and your knitting costs low.

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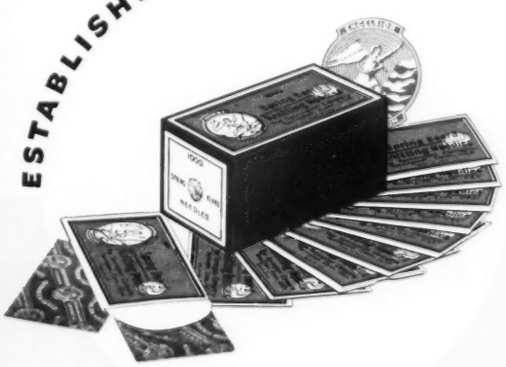

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Variety of types to meet every knitting requirement, but *no* variation in the qualities that mean good knitting—that is what you want in needles. The variety of Torrington types is complete—and the qualities of each type are uniform, for Torringtons are the *machine-made* needles. Their strength, for example, is controlled with the utmost accuracy by machine methods of handling and production. The other qualities in which uniformity is essential, temper, finish, overall dimensions, are also controlled with the same extra machine precision. Use Torrington Needles for complete *machine-made* uniformity and for a full variety of types to meet every knitting need.

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Knitters should be careful at all times to see that needles and narrowing points are straight and in perfect alignment. Knitters can accomplish this by regularly checking the fabric coming off the machine on each section head. Any faulty alignment of needles, etc., will immediately show up in the fabric.

Transfer bar points and transfer stand points should likewise be regularly checked. Each knitter should make it a point to do this often. As a reward he will be afflicted with a minimum of such common knitting ailments as menders, press-offs, and broken needles.

Narrowing points and needles should be oiled daily. If there is any prolonged stoppage of the machine, the knitter should take a soft brush and after dipping it in needle oil, run it accross the needles. This should also be done with the changing of shifts and when closing down.

Knitters should bear in mind that while they may not own the equipment, it is the equipment that produces their livelihood. Aside from pride in workmanship and skill, the knitter has a selfish motive in taking care of his machine. If the machine is neglected, it will give him trouble and it is the *knitter* who will suffer through stoppage, loss of production, penalties for inferior production quality, and kindred difficulties—not the *machine.*

The knitter should see to it that the narrowing comb or finger is in it's proper place. It should be seen to that the points are in the center and dip properly between the sinkers and dividers. The grooves in the points and the curve of the points should be properly checked. If the points and the needles do not come together properly, the needles will have to be pliered in either one direction or the other as the case may be. Care should be taken that the narrowing points are not pulled too far forward, in adjustment. This will cause drop stitches as the beards of the needles will not fit into the grooves of the narrowing points.

A knitter should check over his needles, sinkers, dividers, points and bits daily when he starts up, to make certain that all are in perfect working order and will produce perfect hosiery. The knitters own conscience and initiative must be depended upon for carrying out this task properly. The foreman and the grey examining department can check on the knitted hosiery to detect defects, but it is the knitter's task to check his machine and pursue proper precautionary methods. CONTRIBUTOR No. 7091

Size Yarn on B-5

EDITOR COTTON:

Can a 12s/1 combed cotton yarn be run successfully on a 3½-inch 160-needle B-5 S & W machine equipped with 36-gauge forward hook needles? We have been asked to make a number using one end of 12s/1 for leg and foot, heel and toe. This number is supposed to be knitted ingrain, with stripes and elastic top. Any information on this will be most helpful. CONTRIBUTOR No. 7051

Rust on Full-Fashioned

EDITOR COTTON:

Referring to the question of rust as asked by "CONTRIBUTOR No. 6954" on page 177 of the October issue of COTTON, I wish to say that the constant accumulation of rust on a full-fashioned hosiery knitting machine has long been the source of much exasperation among hosiery men. Somehow or other no complete remedy has as yet been discovered which may be used as a rust preventative for the unsightly rust that gathers on the machines.

Frequent periodic cleaning of the machines will prevent the accumulation of any large deposits of rust. A schedule should be maintained that insures thorough and complete lubrication. Needles and narrowing points should be lubricated daily. Cam rollers, chains, carrier rods, and driving bars should be lubricated twice a week for one shift, and daily for two shifts. Other parts of the machine need be lubricated less often, as will be noted on the lubricating schedule distributed by the machinery manufacturers.

Even with the protective coating of oil on the various parts of the machine, a film of rust will accumulate. The only way to remove this unsightly rust is by cleaning off the equipment. This may be done with cleaning waste and an "oil cutter" such as kerosene, gasoline, alcohol, or ammonia. After a thorough cleaning job has been done, the various parts of the mechanism should be thoroughly oiled and lubricated.

With the high moisture content of knitting mill atmosphere, due to humidifiers, moist silk, water troughs on machines, and all such contributing factors, one can see how easily rust can accumulate on equipment.

It is equally impossible to prevent rust deposits from running from the oscillating bearings. The only thing to do is to keep the bearings well lubricated and there will be no danger of the rust settling in the bearings and "freezing" them. With the periodic cleaning of the equipment (which should take place on the average of once a week) these rust deposits will be removed. As long as a machine is well lubricated and is kept that way, the rust deposits will not have any serious effect either upon the equipment or the operating efficiency of the machinery.

CONTRIBUTOR No. 7002

Stitch in Time

Maybe you will think you ought to fire me when I tell you what I'm going to," a man said to his boss, "but I know you *should* fire me if I don't tell. Of course, you would never know which one of us did it and it might not be discovered at all if I didn't tell you, but I got the stock mixed in that last batch and the trouble may not show up for months after the job is in the customer's hands. Now, the batch can be reclaimed and the principal loss will be the labor that's been done on it, but we will save a lot of trouble for the company by not letting this stuff get out and go wrong on the customer."

"Frank, I had been thinking that in a couple of months I would ask the superintendent to OK a raise for you," the foreman replied, "but now I'm going to ask him to do it today. You're the best inspector I have."

Men will "cover up" mistakes if they have the kind of a boss who gets "hard-boiled" when a mistake is admitted. Show appreciation, and men will come forward truthfully and own up to honest mistakes.—"*Management Information*", *Elliott Service Co., Inc.*

Finishing Circular Knit Goods

(*Article I: Bleaching on the Open Tub*)

• This begins a series of articles on the finishing of circular knit goods, as prepared by a practical mill man. The first installment covers the quick bleaching of fabrics on the open tub, and the next article will take up the bleach by the kier boil and chlorine.

"BLEACHING on the open tub" is a process more commonly known as "quick bleaching" since it can be completed in a short time. As a rule only small, rush orders are bleached in this manner, the chief reasons for this being the cost and the fact that the shade resulting is not always as good as that obtained on kier-bleached goods. However, certain types of goods are always bleached in this manner, mainly goods knit on 30-inch and larger machines, because these goods are too heavy to be easily run over the kier-loading equipment.

Quick Bleaching Machine

The machine on which this process is carried out in our plant is a reel tub common to all knit goods finishing plants. Each roll of goods runs continuously through a pair of rollers (usually covered with rubber), the lower roller being positively driven and the other a rider roller exerting a pressure equal only to its weight; over the reel and is piled in the tub, sliding down into the bath from which it is picked up by the rollers. The number of rolls of goods to be bleached determines the size tub needed. These tubs vary in capacity from 4 to 20 rolls or will process about 50 to 1000 pounds of goods.

Boiling Out

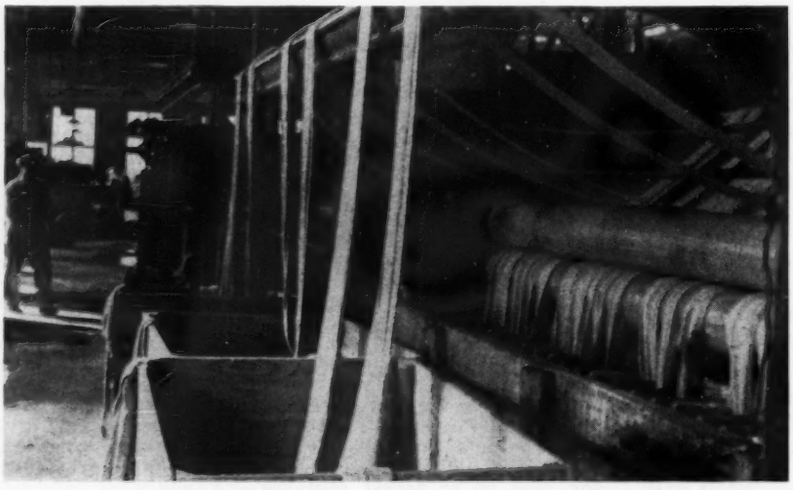
The first operation after loading the goods is the boiling out. This is the most important step because a good boil out is essential to a good white. We use sodium peroxide in the boil out—2 per cent (on dry weight of goods) on goods knit of rayon or mercerized cotton yarn, and 3 per cent on goods knit of natural cotton yarn. Cotton contains more motes and other impurities and is harder to wet out than the other yarns, thus the difference.

The bath should be no greater than is absolutely necessary for good running of the tub. About 6 to 1 is a good bath to goods ratio, giving a concentrated bath in which the goods will easily run. Three quarters of an hour to a full hour of boiling is necessary for good results. Inspecting the goods at frequent intervals is the best way to determine when the goods have boiled sufficiently. The goods will be several shades whiter, due to the oxidizing action of the peroxide, and most of the motes will be removed when a good boil is obtained. A hot rinse follows to remove the alkali, then a cool rinse to prepare the goods for the bleaching bath.

Bleaching

Again in the bleaching the bath should be just as short as is possible to run the goods in. This reduces the amount of chemic* needed. The strength of this bath varies as does the boiling out bath. Rayon and mercerized cotton goods require 5 gallons of 10 degree Twaddle chemic per 100 pounds of goods, while 6-7 gallons per 100 pounds is needed for cotton goods. These amounts will give a bath of ¾ to 1 degree Twaddle, depending of course on the amount of water added to the tub. These quantities can be, and at times must be, varied. The weaker the bath the more time required to get a good white—and the stronger the bath the less time required.

There is little danger of tendering the goods because of the amount of water necessary and the short time the goods are in the bath. Inspection is again used to determine when the goods have run long enough in the bath. 30 to 45 minutes is sufficient for



Unloading a large tub

*Chemic is the common name used around bleacheries for a stock solution of Sodium Hypochlorite. In this particular case the solution contains 110 lbs. caustic, 100 lbs. soda ash, dissolved in 550 gallons of water and 100 lbs. of chlorine gas bubbled into this. This solution is from 10 to 12 degrees Twaddle, depending on the temperature.

Left, a load of goods in motion on a tub; right, a 20 strand tub loaded

most goods when a bath of proper concentration is used.

Souring

When the goods are bleached the bleach bath is dumped out and fresh water run in equal to 8 times the weight of the goods. To this .25 pound of sodium bisulfite per 100 pounds of goods is added and the goods run cold for 10 minutes. Only .15 pound of sodium bisulfite would be needed to exactly neutralize the chlorine held in 100 pounds of gods, but the excess is desirable as a precaution.

This compound is highly soluble and the time is needed to assure neutralizing all the chlorine. Heating increases the action of this chemical, but this is objectional unless certain all the chlorine has been neutralized. Souring improves the shade considerably by removing the color and some of the impurities of the bleaching bath. There are many water impurities such as chloride of iron that the sour with bi-sulfite will remove if an excess of chemical and more time are used.

Soaping

A good, strong soaping is necessary to remove any remaining chemicals, dirt or other impurities. One per cent soap in an 8 to 1 bath run at the boil for from 5 to 10 minutes is sufficient. To be sure that the goods are finished in an alkaline condition about .5 per cent soda ash is added with the soap. Goods finished in an alkaline condition are softer than goods finished on the acid side. Hot rinsing removes the soap from the goods.

Blueing and Softening

Blueing should be added as water runs into the tub and as the goods are being circulated through the tub. This is to prevent unevenness. Acid dyes in an acid solution are most commonly used for blueing knit goods. Since these dyes possess little or no affinity for the cellulose fibers, there is little danger in using them. Some direct dyes are used and give a much better shade—although there is more danger of varying shades from load to load. This must be regulated by accurately measuring the amount of blueing added to each load.

Inasmuch as a very small amount of blue is needed for a load of goods, (1-2 grains per 100 pounds) it is advisable to make up a weak stock solution (1 ounce dye to 1 gallon of water) and measure the amount needed from this. In this way the chance of error is greatly reduced. Whereas the acid blues are run cold and the goods unloaded from the cold bath, a better shade is obtained from direct-dye blues if the bath is heated and the goods unloaded from the warm bath. If the goods need further softening, the softener would be added in this bath. That subject will be treated in detail in a later article. When the goods are taken from the blueing they are then ready for extracting and drying.

As has no doubt been observed, bleaching on the open tub is very flexible process. Reasons for variations in the different steps have been mentioned throughout the article. Difference in the constructions of the various styles is the chief reason for varying the process. Closely knit goods of hard twisted yarn are naturally much harder to bleach than are goods knit of rayon. The bleacher will have to vary the concentrations of the different baths to offset these variations in constructions. This, of course, will have to come through personal experience or knowledge gained from the experience of others.

It has been found that a preliminary wetting out with a penetrant (pine oil) will greatly assist the peroxide boil out, as none of the strength of the peroxide will be lost in wetting the goods.

The trouble most often encountered is an offshade caused by an insufficient peroxide boil, a weak chemic bath, or too little time in the chemic. In either case the best thing to do is to sour the goods and carry out the entire process again, cutting the concentrations of the baths, as a full strength bath will not be needed.

Spots sometimes cause seconds in this as well as most other processes. Since each different spot has a different cause and remedy (if there is one) no attempt will be made at this time to cover this broad subject.

Women Employees

Handling men is the subject of frequent consideration. But, how about *handling women employees.* That's a question of real importance to many supervisors who have women as well as men to direct.

A man with a lot of experience in dealing with women employees tells me, "the same principles that apply to handling men employees, apply to women employees, *only more so.*'

Among the things most important in supervisory relations with women employees are tact, courtesy, respect, patience, calm manners and absolute avoidance of favoritism. Women employees are more inclined to be suspicious of favoritism than men. Consequently, supervisors must be more than usually careful to avoid any semblance of it.—"*Management Information*", *Elliott Service Co., Inc.*

TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Full-Fashioned Hosiery Showing Life After Long Dullness—Fall Prices on Branded Lines Mainly Unchanged—Nylon Stockings Meet with Excellent Consumer Response—Underwear Plants Fairly Active But New Orders Slow—Demand Held Back by War Uncertainties

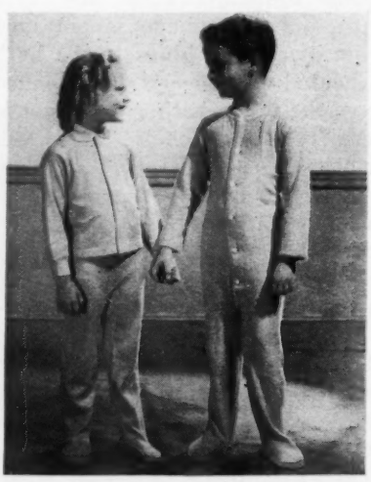
July 16, 1940

DULLNESS in both hosiery and underwear has been the rule this month, continuing a trend that has been apparent in the hosiery field for several months. The full-fashioned end of the hosiery business in the Pennsylvania territory has passed through one of its poorest seasons in several past and while the mills here continue at about 40 per cent of capacity there are faint signs that a slight turn for the better is now taking place. Manufacturers of branded full-fashioned have named prices which mean no important price changes for the fall and as industrial activity in the vast rearmament drive becomes effective in increasing consumer purchasing power the knit goods markets will benefit. This may not become apparent in hosiery and underwear for weeks yet it is going to produce a good season for most manufacturers. Nylon stockings are "taking" at retail and have featured an otherwise uninteresting full-fashioned hose market.

Full-Fashioned

Branded full-fashioned hosiery manufacturers have named prices showing no important change for the fall season with Julius Kayser & Co., announcing these effective through August 31. Kayser has continued its $6 minimum price for silk numbers with a 3-thread style in this bracket, now all silk. Its two nylon numbers, No. 40 and No. 30, are quoted at $8.25 and $9.75 respectively. Included in the new items listed by the Kayser firm are five novelty sports numbers with a mercerized knee length and a mercerized tweed anklet. Gotham Silk Hosiery Co. retained its $6 base for fall but with three numbers slightly reduced in price and it continued lisle top numbers to retail for 69 cents. These prices mean that prices are "right" for consumers and when the buying finally gets under way there is no reason but to expect that demand for full-fashioned will be good. If manufacturers continue to keep production down to within reasonable limits and not go into third shifts to cut costs there are no doubts for the fall season but if they make these old mistakes again there is doubt about it.

It is apparent that the new mercerized full-fashioned stockings are taking better than expected and more mills have recently announced their entrance into this field, the latest being Apex Hosiery Co., here. These lines are priced to retail from about 60 cents up. Shipments of full-fashioned women's stockings for the first five months were considerably smaller than for the same period a year previous although in May there were more shipped than in the same month a year previous which may have been the beginning of a turn for the better.



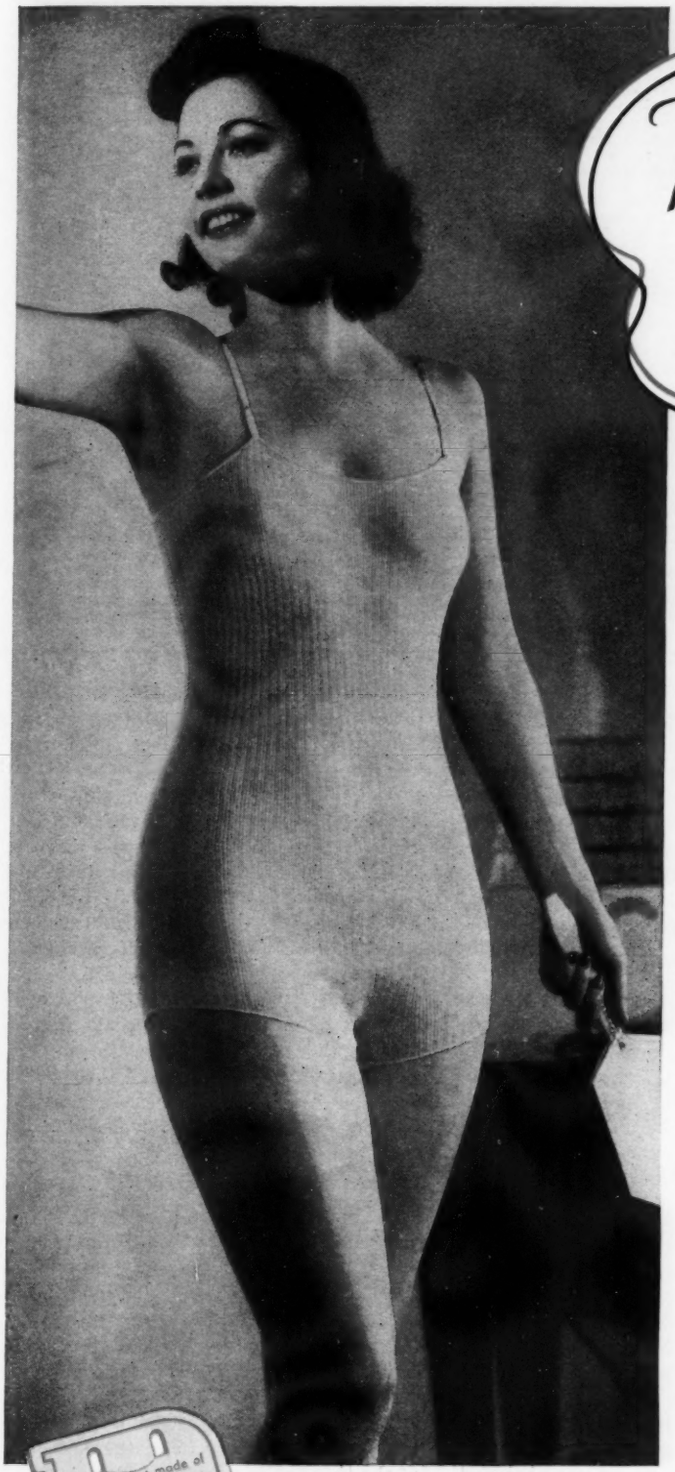
New Spun Rayon Product—The suitability of spun rayon for knit goods is demonstrated in these new knitted sleeping suits for children, by Fuld & Hatch Knitting Co., Cohoes, N. Y. The garments are made of spun rayon and cotton fabric. (American Viscose Company photo.)

Half-Hose

Although the last two weeks have seen what may be the beginning of a change for the better, half-hose has been a dull spot this year and production for the first five months shows almost 10 per cent under the same time a year previous with a relatively bright spot being the short or slack socks. Production of the latter has been almost equal to that of the first five months of 1939. Hot weather is now causing a heavy retail demand for slacks and indications are stocks of mills and jobbers will be well cleaned up this season so that another good mill year is in line for 1941. As knitters finish work on the summer lines of cotton, silk and rayon they begin on the wool half-hose but here business has been disappointing in most instances. Buyers of wool lines have been worried over the possibility that an early termination of the war would see wool go off so they buy only hand-to-mouth. In this connection recent data show that imports of English-made wool half-hose have been relatively heavy so far this year, indicating that even if the war is in progress England continues with the export business and at the same time importers here want to be sure they have enough goods of this type to last even if the war situation in England gets worse.

Underwear

The lightweight season so far as the mills are concerned has ended and with a barely fair situation reported, but knitters feel that the fall season will be a good one with prices firm. There has been much delay of fall commitments and the light season did not finish with the usual number of reorders. The new wage minimum set under the Fair Labor Standards Act became effective July 15 and this together with the belief that the government will not allow raw cotton to drop much below its present level gives an underlying base to the market. Many knitters feel that there are more chances of prices of underwear working up than to go lower especially now that orders for the armed forces are more numerous and there are good prospects for general business to reach a higher level. The cool spring held back demand for lightweights and this to some extent was never regained and



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now manufacturers are hoping that the fall season will make this up with government underwear buying giving a needed backlog to the business. Cotton yarns are quoted higher than a month ago and this is also a factor in maintaining prices in the underwear section even though demand has not been heavy.

Seamless

Anklets have been a bright spot in the hosiery market so far this year, being one of the very few divisions to register an increase in shipments over the comparable period a year previous. However, May shipments showed a decline both compared with a year previous and also with a month previous. Anklets are being worn by more members of the average household as a warm weather item. Women's seamless lines show a decline in shipments in the first five months of about 5 per cent compared with the same months in 1939 and the trend is now for the lower silk to bring back silk seamless which lost ground when silk prices advanced. Indications are that the fall season will see a sharp pickup in the movement of seamless lines as more consumer funds are available but with most having to buy low priced lines.

Full-Fashioned Prices Unchanged for Fall

Branded-full fashioned hosiery manufacturers have opened their fall lines and have named prices to August 31 which show no important change from those prevailing previously. This means that the consumer will be assured of low prices on full-fashioned hosiery for months to come with all indications being that as general business conditions improve, as expected as a result of rearmament expenditures, demand for full-fashioned hosiery will improve. This will mean that by late August activity among the knitters of such lines should be materially higher than at present and if raw silk continues around its present level profit margins for full-fashioned knitters should be slightly better than during the spring season. Julius Kayser & Co. named prices generally unchanged and introduced several new styles including a new line of novelty sports hosiery. The $6.00 minimum price for silk numbers was continued with a 3-thread style in this bracket which is all-silk. The company's 3-thread and 4-thread lisle welt, reported to be selling well, are continued at $5.40 a dozen, to retail at 69 cents a pair.

Its two nylon numbers, 40 and 30 denier, are quoted at $8.25 and $9.75 respectively. This company also announced that effective July 1 the warehousing, packing and shipping of hosiery from all its plants would be concentrated at Bangor, Pa., although knitting will be carried on at the several mills as heretofore. In a letter accompanying the new price list this concern said, "Many good hosiery customers tell us that their silk hosiery business has really not been influenced at all by the introduction of nylon," and it adds that customers in the habit of buying $1.00 silk lines are continuing their normal purchases.

Retaining its $6.00 minimum for base numbers Gotham Silk Hosiery Co. announced its fall line. Three numbers were reduced in price, a 5-thread and 10-thread outsize, and a 10-thread service weight. It introduced a new 3-thread all-silk long stocking at $6.25 to sell at retail for 79 cents a pair. Its new proportioned numbers in short, medium and long lengths, are a 2-thread, 3-thread and 4-thread all silk with stretch top at $7.10, $7.25 and $7.40 for the respective lengths to retail at $1.00 It also continued its lisle top number at $5.40 to retail for 69 cents. In this connection numerous manufacturers of hosiery for women express the opinion that low prices at retail will have to prevail irrespective of what happens in the raw silk market, as they foresee that while many more people will be employed the average pocketbook is apt to be smaller because of increased taxation.

Forecast

(Opinion submitted by COTTON's market correspondent)

Philadelphia, July 16, 1940

Much of the panicky feeling of business at this time last month has passed and sentiment is much more cheerful and wholesome and yet there is much worry over the future among buyers of textiles of all types. Except in lines that are receiving government textile business the future is being left alone for the present by most. There are just now faint signs that this is going to change in favor of the more active buying that was predicted here last month.

Indications are that business levels in this country which in many lines such as steel have already reached boom proportions, will remain high notwithstanding war or peace developments in Europe. The mighty rearmament drive in the United States means that activity in this country must remain high for several years at least with unemployment dropping and consumers individually possibly not having more to spend but many more to spend it. Taxation may keep the standard of living from rising but not much of a drop can come.

Bringing this outlook to textiles, indications are for knit goods manufacturers to have a much better fall season although such lines as underwear and hosiery may not feel the full effects of better general conditions until late in the year. Commodities will not go much lower and some will advance. Silk is for the present easy and due to record small consumption in recent months here the outlook for this fiber is to stay around its present level or slide off a little further until American interest grows.

Cotton is not going to change much over the next month but cotton yarns may be slightly easy. Prices were recently raised by spinners and buying may be small until these advances have again come off yarns but no great easing can come in cotton or yarns because of the government farm program and because sales cotton yarns are still selling at cost due to high cotton and labor costs. Wool would ease on peace rumors or early peace and in fact may ease with war continuing because of cutting off of such former large consumers in Europe. Rayon is active and firm and if any changes come, none are immediately in view, these will be conservatively up.

Notwithstanding the good outlook due to rearmament expenditures, manufacturers are not flying off the handle. They know this is not a normal expansion and it could end if disarmament by any chance came in the next few years so they are not going to buy recklessly nor expand as they did in the first World War with later unfavorable consequences. This means the outlook is for better business but with no runaway markets nor prices in textiles such as may be seen in the airplane and steel industries.

Union Membership Votes on Third Shift Policy

Following the holding of the 29th annual convention of the American Federation of Hosiery Workers in Milwaukee late in June, the matter of the third shift in the hosiery industry came into the spotlight. Ballots for a national referendum on a resolution empowering the national executive board of the union to adopt ways and means which it may deem necessary to protect the interests of the membership with reference to the three-shift method of operation of hosiery machines will go to the membership of the hosiery unions. Union officials made the comment that, "it is important that every member realize that the referendum is not a question of whether you are for or against the third shift. The convention and the national officers are solidly opposed to the third shift."

In explanation of this step, union officials said that under the resolution its board is simply given power by the membership to act in the best interests of all concerned when faced with the third shift issue. They said the resolution gives a flexibility and mobility to the federation's activities in this connection. They said it replaces the "frozen" anti-third shift policy adopted a year ago. It was stated it permits the union board to fight the spread of the third shift operation with a weapon to use against those open shoppers "who would like to increase the third shift to take out extra profits at the expense of the organized section of the industry." After two and one-half days of discussion and study of the resolutions on the third shift issue delegates to the convention were unwilling to make a decision without a referendum clause.

President McKeown told the delegates, "this is a very serious question and the way it is handled is going to

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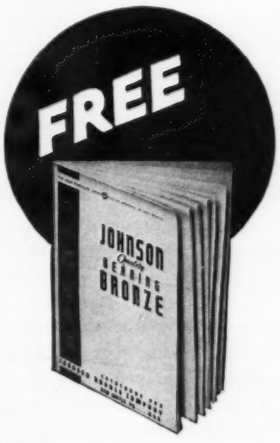

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mean life or death for the hosiery union." Another point of major importance that came out of the annual convention was the definite promise that no early return to uniform wage rates in union mills is being contemplated, regardless of repeated petitions by several employers and one faction of the union itself that such a basis be re-established. An official of the union said, "Any return to uniformity at the present time would simply mean further wage reductions at the lowest level of present agreement rates and for that reason such a policy may be asked for by certain employers and some tired shop committees may be receptive to such a policy." Alexander McKeown of Philadelphia was re-elected for a two year term as president; Alfred Hoffmann was re-elected first vice-president and Edward Callaghan of Chattanooga second vice-president. William Smith, secretary-treasurer, continues in that office.

Second Nylon Unit Scheduled This Year

The second unit of the nylon yarn plant now under construction at Seaford, Del., probably will be completed as far as the structure is concerned in late November or December. Machinery installation will be gradual as was the case with the first unit now in operation but it is expected that the installation of machinery will be completed in July 1941. During the last two weeks the nylon division of the du Pont company began shipping yarn to 20 more hosiery mills bringing the total number to about 67. Only 47 companies out of approximately 400 in the full-fashioned industry had been making nylon hosiery under the old licensing arrangement which duPont waived on May 13. Delivery of yarn to a greater number of the mills follows increase of production of the yarn at Seaford. The company is understood to be chiefly interested in spreading the distribution rather than increasing shipments to those mills already manufacturing nylon stockings.

In view of this few of the present manufacturers expect to have their limited yarn allotments increased during the remainder of this year, because less than 20 per cent of the mills up to a few weeks ago had yet received all of their first yarn deliveries. Manufacturers making nylon stockings have asserted that the deliveries are very slow in coming in which is of concern to them at this time due to the fact that the chief interest in the full-fashioned hosiery market now is in nylon. Retailers are also complaining that they are unable to accumulate any stocks of nylon which in general are sold as fast as deliveries are made from the mills.

Union Certified at Rosedale Plant Vote

The National Labor Relations Board early in July certified Branch No. 10, American Federation of Hosiery Workers, as the sole collective bargaining agency for 2,000 production employees of the Rosedale Knitting Company near Reading, Pa. Certification followed a run-off election June 14 in which Branch No. 10 received 994 votes and the Rosedale employees' association 974. On May 18 the National Labor Relations Board over the protest of Branch No. 10 held an election in which the association received 950 votes and the American Federation of Hosiery Workers 883 with 135 men not voting. Following this the board ruled a majority of 985 was necessary. In commenting on this the hosiery federation said it was a severe set-back to company unionism in the hosiery industry.

Nylon Returns Are Running Very Low

While figures on returns of nylon hosiery by consumers since the nationwide sale of these stockings started on May 15 continue fragmentary, most reports received to date indicate that consumer returns will average at least as good or lower than the average experience of stores on comparable silk stockings. There are instances in which nylon returns have run above the less-than-two-per-cent-of-sales, recently claimed, but many in the trade regard the reports as inconclusive as yet. However, mill representatives who have discussed the matter with large numbers of their retail customers over the last few weeks appear to be unanimous in stating that consumer returns of nylon are not a problem and that they may be dismissed as a factor of importance. Retailers who feared that nylon returns would be heavy have been amazed at the results.

While there are differences of opinion on practically every other angle of the nylon situation the trade is agreed on one point, that demand for 40-denier merchandise has been far heavier than that for the 30-denier. The fact that the 30-denier goods are higher priced accounts for a good measure of this. Instances are reported in which retailers have priced 45-gauge goods of both 30 and 40-denier at $1.35 and the 40-deniers have far out-sold the lighter stockings. Some in the trade advance the explanation that 30-denier nylon looks very sheer to some consumers although they are actually heavier than two thread silk.

Larger F. F. Shipments Predicted by Assn.

The volume of full-fashioned hosiery shipments during the last half of the year will offset to a great extent the less than normal shipments of the early part of the year, it is predicted by the National Association of Hosiery Manufacturers. Full-fashioned shipments for fall will become active this year much earlier than usual, according to the association. Its statement says in part, "With the exception of industries for whose products war or defense has already created demand industry generally is experiencing something below normal conditions. No one may reasonably expect that the situation would be any different under present conditions and surely we may not expect the hosiery industry to escape the effects of present uncertainty. Our industry cannot find any satisfaction in the special problems which now surround it but it must not make the mistake of thinking or feeling that it has been singled out for special struggles. Many other industries are having their troubles, some of them doubtless more than ours. It is in time of stress that the ability of the captain or pilot is tested. It is during a storm that the captain must be least panicky and most cool and wise. What applies to the ship on the seas applies to the industrial enterprise on the land. It is well that we remind ourselves that the products that we produce are not luxury products. We make necessities. We make things which men, women and children require in time of war as well as times of peace. To be sure, under present conditions the consumer is likely to replenish or enlarge the wardrobe with more care. On the other hand, more consumers will be working in the days ahead and more of them therefore will be purchasing."

Imports of Cotton Chinese Hose Large

Imports of cheap cotton hosiery from China continue at a high rate, dominating so far as quantities go the entire import business. For the month of May, according to the National Association of Hosiery Manufacturers, 91,859 dozens arrived here from China. The imports from Japan are tending to fall off somewhat as the arrivals from China increase. In May, imports from Japan were 33,682 dozens. Five months imports this year from China totaled 423,866 dozens compared with but 53,670 dozens for the same period last year. Imports for five months from Japan were 283,859 dozens comparing with 300,568 dozens for the same months a year ago. The domestic market has been aware of this large increase in imports of cheap hosiery from China in recent months. This mer-

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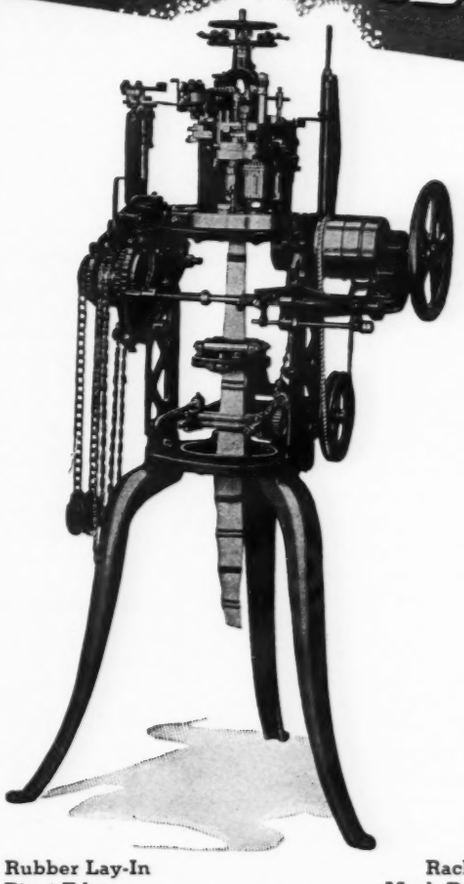

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chandise has been offered freely to wholesalers and other distributors and has naturally made severe competition for comparable hosiery made in this country. The Chinese numbers most popular are men's plain cotton socks in solid colors. They are now being offered freely at 50 cents a dozen delivered.

At the same time wholesalers report anklets, mostly children's numbers, have been sold here as low as 25 to 30 cents a dozen. Chinese hosiery imports by this country have been a matter of importance only in the last year and the National Association of Hosiery Manufacturers has called attention to the fact that besides the imports for consumption additional quantities have been accumulated in bonded warehouses here. At the present time records show that stocks of Chinese cotton hosiery in such warehouses are about 125,000 dozens larger than at the beginning of this year.

Wool Hosiery Imports Larger

Wool hosiery imports from the United Kingdom continue to gain over a year ago. The explanation of this is that the trade here is anticipating imports of this kind in view of possible effects of the war on the industry in that country. For the first five months of this year we imported from the United Kingdom more than twice as much wool hosiery as in the same time a year ago, while in May this year such imports amounted to three times the total of the same month a year ago. But even with this increase in shipments during the first five months a large volume of English-made hose must come in during the coming weeks if last year's total is to be approached. In normal years July and the succeeding months register the bulk of the imports. It will be seen, therefore, that with only 85,000 dozen entered for the first five months this year and last year's total being 275,000 dozen, a considerable quantity of imports will have to arrive if the normal total is to be reached. If such imports from the United Kingdom are seriously interfered with by the latest phase of the war the domestic industry will profit. There is a fair quantity of wool socks of the kind made in this country by a few mills having the special English machinery and such firms would stand to gain by a change in the import situation.

Silk, Wool Exports to Require License

Exports of silk and wool and products containing the same from the United States are prohibited except under special military license under a proclamation by President Roosevelt which named a number of products essential in the national defense program. Interpretation of the proclamation in the hosiery market indicated that exports of silk and wool hosiery would not be banned but that exporters would be enabled to secure licenses which are to be issued by the State Department under "directives" from the Administrator of Export Control, Lieut. Col. Russell L. Maxwell. It was pointed out as far as silk was concerned, banning of exports from the United States to warring nations would not hamper such countries materially inasmuch as silk would still be available from Italy and Japan. Silk is used for powder bag and parachute purposes. The relatively small amount of silk hosiery exported would not seriously affect American national defense measures, so long as raw silk still is available to this country from Japan.

A fine up to $10,000 or imprisonment up to two years or both is provided for violations. The President explained that the action only sets up controls considered necessary at this time and indicated that the list of articles requiring special license for exportation might be added to as occasion required. Although Mr. Roosevelt differentiated in his comment between an embargo and a licensing system he declared that there was no doubt that the products listed in the proclamation would henceforth remain within the United States.

Bradley Reorganization

Bradley Knitting Co. of Delavan, Wis., on July 11, filed a petition in the Federal District Court in Milwaukee under Chapter 10 of the Bankruptcy Act. The company estimates assets at $1,447,910, including the Milwaukee property formerly operated as National Knitting Co. Liabilities are given at $425,762 exclusive of capital stock and unpaid dividends but include RFC notes totaling $162,925 and a loan by John P. Maguire Co. of New York City for $150,000. John N. O'Brien of Delavan was named trustee.

Apex Adds New Lisle Hose

Apex Hosiery Co. of Philadelphia has introduced four new full-fashioned lisle styles each bearing an assigned United States Government style number and all fashioned of 110s two-ply Durene yarn. Style No. 7 is a 42-gauge plain lisle number of fine grained texture while Style No. 75 in 45-gauge features an attractive lace clock. Style No. 73, described as "Bridal-Veil Mesh" is a fine pin-point pattern. No. 74 features a soft textured medium sized mesh of lace-like appearance. Both mesh styles are 45-gauge and prices quoted on these stockings at present are $5.50, $6.50 and $6.75. Introduction of these new lines in mercerized full-fashioned by one of the most important knitters in the industry attracts more attention to this type hose which was stressed when the Japanese boycott feeling was high. Consumer reaction at that time to cotton full-fashioned was below expectations but manufacturers believe now promotion of these lines, through the co-operation of the Federal government, is on a much sounder and more promising basis.

May Shipments of Full-Fashioned High; Seamless Shipments Low

According to the National Association of Hosiery Manufacturers, a total of 10,107,612 dozen pairs of hosiery were shipped during the month of May, as compared with 10,890,531 dozen pairs shipped in May 1939. The full-fashioned branch shipped 3,661,448 dozen pairs during May 1940, or roughly 250,000 dozen pairs more than during the same month a year ago. Seamless hosiery shipments (including small quantities of men's full-fashioned half-hose) amounted to 6,446,164 dozen pairs, or 1,000,000 dozen pairs less than were shipped during May 1939. The shipment decreases occurred in all divisions of the seamless branch except for women's seamless rayon hosiery and woolen bundle goods.

The May shipments of women's full-fashioned hosiery were about 400,000 dozen pairs higher than for the preceding month of April. All seamless hosiery divisions, however, show a shipment decrease from April with the exception of cotton and woolen bundle goods, and boys' golf hose.

Total shipments of all types of hosiery for the first five months of 1940 amounted to 54,275,274 dozen pairs, or about 1,000,000 dozen pairs less than for the same period in 1939. Women's full-fashioned shipments aggregated 16,660,781 dozen pairs, compared with 17,174,485 dozen pairs shipped in the same period last year, and seamless hosiery shipments were 37,614,493 dozen pairs, as compared with 38,180,235 dozen pairs shipped during the first five months of 1939.

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TRENDS—YARN MARKETS

Easier Trend in Yarn Markets with Exception of Rayon Where Activity and Firmness Rule—Silk, Wool and Cotton Decline Gradually with Cotton Yarns Rising and Later Dropping—Worsted Yarns Firmer Than Wool—Fall Coverage Slow to Develop

Philadelphia, July 16, 1940

RAYON is the outstanding feature of the yarn markets from the standpoint of both sales and prices. Producers have been experiencing such a good demand that they are unable to accumulate even normal stocks of yarns and at the same time prices of raw materials going into the making of rayon point to continued hardness in prices. Cotton has been slightly easy over the month and cotton yarns, after hitting a new peak late in June, have since declined but are not quite back to the May levels as spinners' costs both in respect to cotton and labor are very high and profit margins if present at all very small. Worsted yarns have held firmer than raw wool which has been easy on the top futures market due to the threat of imports from countries unable to sell on the Continent. Mercerized yarns are unchanged in prices and firm due to the hardness of two-ply combed counts of which considerable poundage is being consumed for government uniform cloth contracts, making the civilian end of the business compete for deliveries and price.

Cotton Yarns

Following a spurt in sales at the middle of June cotton yarn prices began to advance and at the peak reached late that month prices were being quoted as much as two cents above the early June level. This increase in activity proved only temporary and while new business since has fallen off materially it continues at a rate representing considerable improvement over that of weeks previous to June 15. With new business declining since that time and specifications coming through to spinners diminishing, there has been a softening in prices and about half of the advance has been lost. There has been very little coverage for fall needs aside from the brief spurt of last month and spinners are now claiming that so far as profit margins are concerned they are worse off than at the lowest point in 1939.

Raw cotton is costing spinners in the South almost two cents more than a year ago and many of them have labor costs about a cent higher than in 1939 so that with current prices about a cent and a half above the 1939 lows complaint is general from spinners that they are losing money. One exception to this easing trend in prices has been two-ply combed yarns which are remaining strong and spinners working on such counts are extremely busy. Many of them have rush orders for delivery to weavers that are making cotton uniform cloth for the government. Yardage of this material has been considerable and several combed spinners report that they are pressed to make all the deliveries wanted. During the last month knitters have not been placing much new business and underwear manufacturers in the up-state Pennsylvania district report that heavy-weight orders for the coming season are developing very slowly. One reason for this is that the cool spring retarded selling of lightweight underwear and goods buyers are delaying purchasing of fall lines until hot weather moves some of this lightweight stock.

Mercerized yarns have been steady in price and since July 4 there has been a fair amount of specifying on old contracts so that processors are working somewhat more actively and also taking in more gray yarn from combed spinners. Fair amounts of this type yarn are required for use in army socks and indications are in the near future much more will be required for this use. In addition the various armed forces require large amounts of cotton knit underwear and socks which as a general rule are manufactured from 24s single combed and spinners already are in possession of a large amount of business of this type which has tended in the recent dull market to continue combed prices on a much steadier base than carded. Mercerizers are receiving more inquiries for the very finest two-ply yarns which are being used by more knitters in making the new lines of lisle full-fashioned for women.

Silk

Mill deliveries of raw silk in this country reached a new low point in June when only 17,307 bales were shipped. Of this total only 12,176 bales were of Japanese origin. The drop in mill deliveries during June climaxed a steady downward trend in this commodity which began last December. With consumption and deliveries reaching a record low and with stocks here and in Japan larger than a year previous it was natural for prices of silk to drop and this has been the case during the last month. At the present time silk is approximately 30 cents lower than a month ago, with the market weak and many hosiery manufacturers expecting that it will enter a new low range within the next month. Entering a new crop year the statistical position of silk is not quite as bullish as a year ago.

Stocks in Japan are about 45,000 bales larger, silk in transit is about the same and stocks in the United States are about 22,000 bales larger. Excess carry-over of visible and invisible stocks of raw silk in excess of normal requirements at the beginning of the 1940-41 silk season is estimated at 113,000 bales by a large silk importing firm, although it points out as a partial offset to this large carry-over, it is generally recognized that the amount of raw silk held by the hosiery mills is somewhat smaller than a year ago. The large consumption of raw silk in Japan for many months past is reported to have resulted in rather heavy accumulation of stocks of fabrics in that country. The silk hosiery industry, raw silk's largest consumer, has been disappointingly slow all spring and prices of such lines are the lowest since the depth of the depression in 1933.

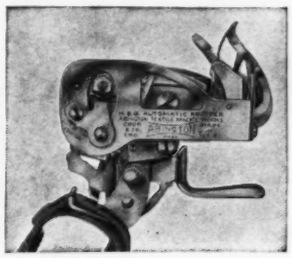
Rayon

Rayon yarn shipments by producers to domestic customers during the first six months of the current year amounted to 184,000,000 pounds, a gain of 13 per cent as compared with 162,700,000 pounds in the same period of 1939. During June deliveries of rayon filament yarn totaled 31,100,000 pounds which compares with 31,900,000 pounds in May and 33,000,000 pounds in June of last year. Stocks of rayon yarn held by domestic producers at the end of June totaled 13,200,000 pounds as compared with 12,500,000 pounds at the end of May. The steady demand for this yarn has kept the industry operating essentially at capacity based upon present deniers being spun. Although knitting yarns are not as active as weaving by a considerable margin there is talk of a shortage of rayon yarn in September. Some producers report holding less than one week's supply of yarn.

Worsted Yarn

Although the wool market was strengthened late in June when the Army bought a very large quantity of goods for uniforms civilian interest has not improved and the wool market has begun to fall. Wool top futures are now selling about six cents lower than a month ago with the trend now downward. One reason for this is the fear that imports may increase shortly. Outerwear manufacturers are finding fall business very slow with stocks carried over from the spring season reported as substantial. Large buyers such as the chain stores are very slow in putting down fall orders so that demand for worsted yarns has been very slow. Prices of yarns however have been holding much steadier than wool and many spinners are asking 2½ cents higher than a month ago, claiming that actual wool is much firmer than the top futures market.

"4-point" knots



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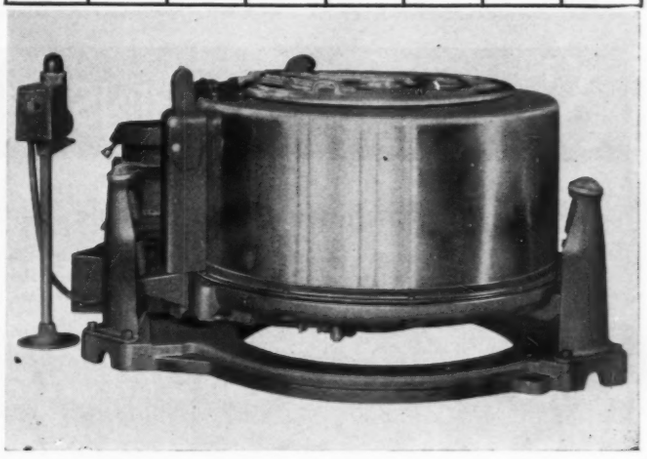

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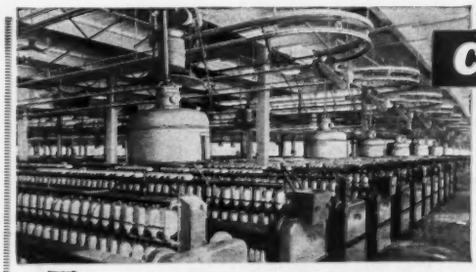

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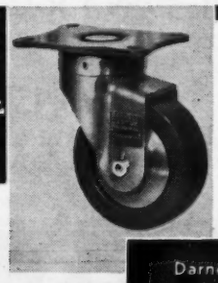

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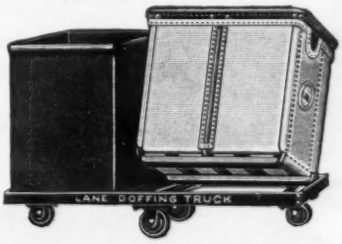

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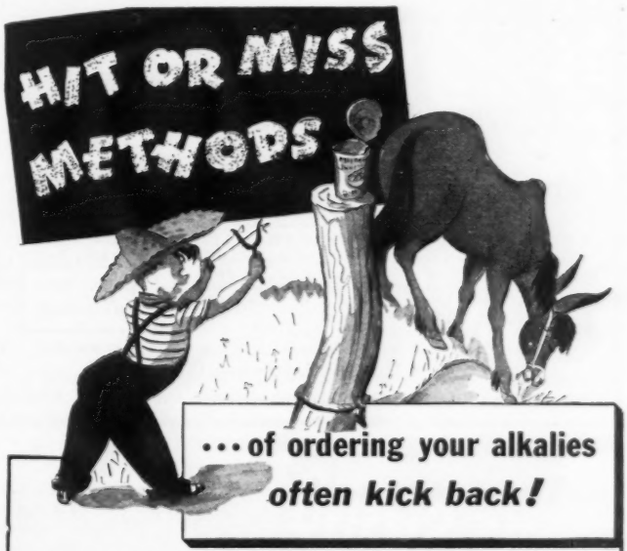

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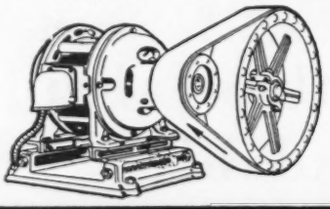

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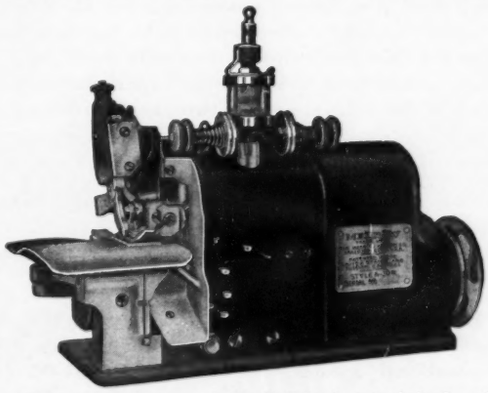

Also Plain Crochet and Shell Stitch Models for Ornamental Edge Finishing and Class 60 Machines for Butt Seaming.

—200 VARIETIES FOR 200 PURPOSES—

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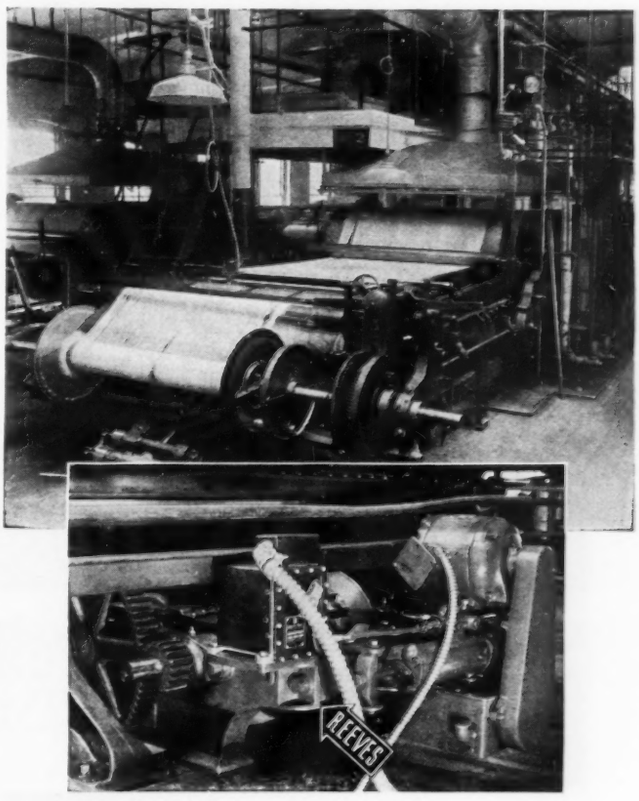
HIGHER REGAIN IN RAYON YARNS

with Reeves-Equipped Slasher Control



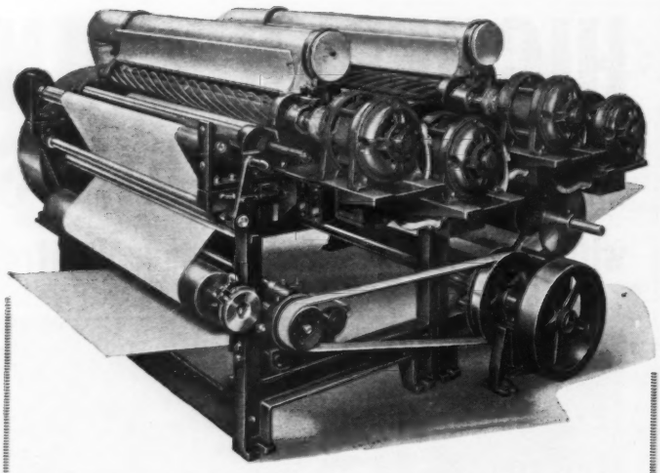
The new system of moisture-control for slashers, introduced little more than a year ago, is demonstrating its effectiveness for rayon as well as cotton yarns. Pictured above is installation on a five-cylinder rayon slasher in an eastern mill. Moisture regain is being controlled by this equipment within one quarter of one per cent plus or minus of desired value.

Contributing largely to efficiency of the control is the REEVES Variable Speed Transmission. When actual moisture exceeds or falls below desired value, REEVES Hydraulic Automatic Control speeds up or slows down the Transmission which is connected to main drive shaft of slasher, thereby restoring desired volume.

Only the REEVES provides sensitive, accurate speed adjustability like this. That's why leading manufacturers of textile machinery incorporate REEVES Speed Control as standard equipment—and why REEVES units are widely used to modernize machines in service. Perhaps you have a problem that REEVES Speed Control will quickly solve. Write for copy of 124-page book, G-397, describing the REEVES line and its use in textile processing.

REEVES PULLEY CO., *Dept.* T, COLUMBUS, IND.

Reeves SPEED CONTROL



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THE ELEXTOP ARRESTS
THE DIRECT MOTORED REVOLVERS
WHEN SEWINGS PASS
DOUBLE SUCTION GETS EVERY THREAD
TAKE IT ON TRIAL

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ERNEST F. CULBREATH, Southern Representative
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We are more than ready to answer any question that relates to your printing problems.

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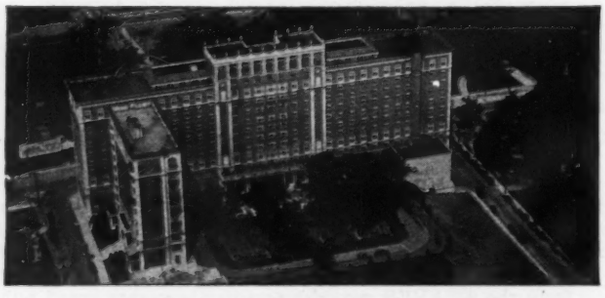
Dalton **Georgia**

The Most Looked-up-to Address In ATLANTA



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by Fay H. Martin

Every carder, frame fixer, section man, and superintendent will find "The Roving Frame," by Fay H. Martin, an instructive pamphlet. Mr. Martin, who has long written articles for "Cotton," clearly interprets draft, twist, lay, tension, pressure of the presser, hyperbola curve, the winding of the bobbin, reverse twist on the roving frame, roving frame cones, tensions and compounds so that the student or practical man will profit by his explanations.

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EFFECTIVE, ECONOMICAL, DURABLE FINISHES FOR FIBRE and FABRIC
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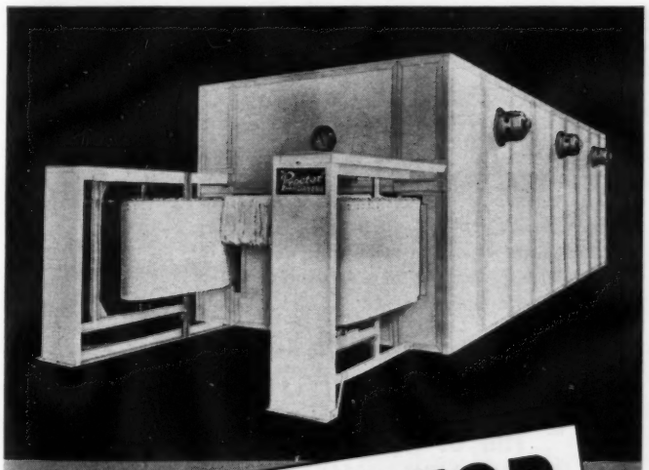

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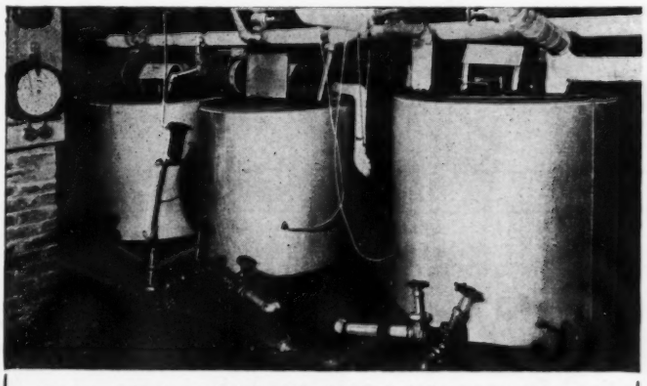

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Fifteen starch kettles were made by us on this special job. These sizing kettles are made of Nickel-Clad steel to eliminate cracks and provide corrosion resistance. Monel metal agitators and heating coils were installed inside for greater strength, toughness, and freedom from contamination or discoloration of product. Welded construction throughout.

Starch boxes, kettles, jig boxes, etc., of Nickel-Clad steel as well as other metals made to order.

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ESTABLISHED 1854
NEWNAN GEORGIA

US

Textile Manufacturers need these qualities too!

To be successful today, you need fast, efficient production in all departments. You can go a long way toward improving production by standardizing on U S bobbins, shuttles, cones and spools.

Ask for samples

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Young man with several years' experience as Time-Study Man on Point System. In making application give full information as to personal description, education, experience, where worked, and salary expected. Address replies to Box 506, care COTTON, Grant Bldg., Atlanta, Ga.

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Former Member Examining Corps
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Your Advertisement on This Page

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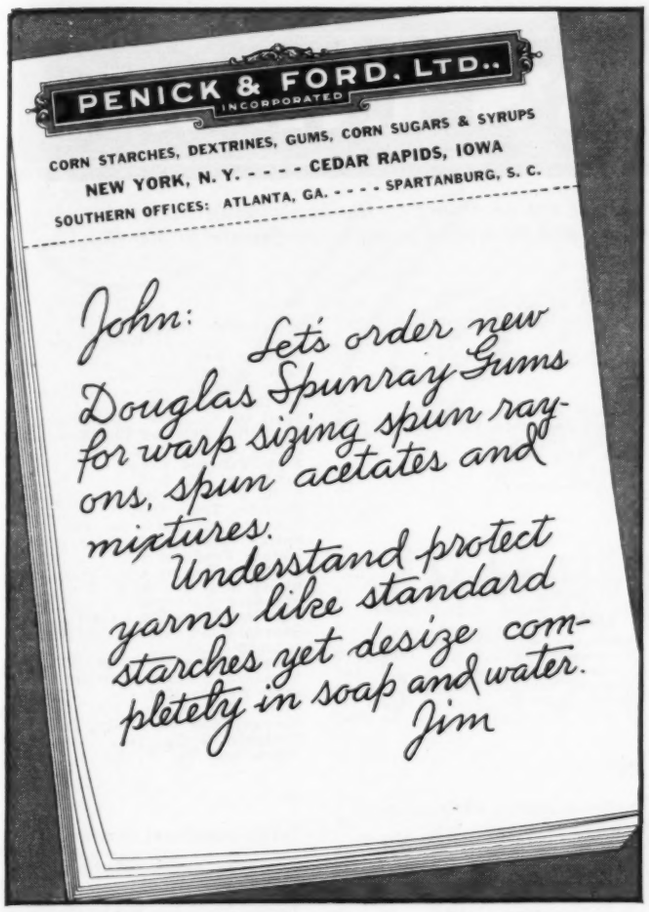
Why not try an advertisement on this page of COTTON? Its 12,600 copies per month reach the **textile executives, superintendents and heads of departments throughout the industry.**

Note the rates above and send in your advertisement today.

COTTON

Grant Bldg. ATLANTA, GA.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NEW YORK, N. Y. - - - - CEDAR RAPIDS, IOWA
SOUTHERN OFFICES: ATLANTA, GA. - - - - SPARTANBURG, S. C.
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Understand protect yarns like standard starches yet desize completely in soap and water.
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Prepare for ACTION

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WE MAKE ALL TYPES OF HOLDERS

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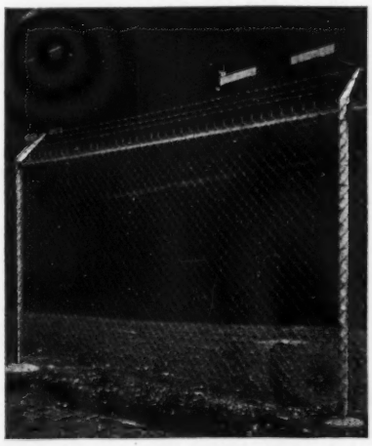

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discourages trespass and invasion

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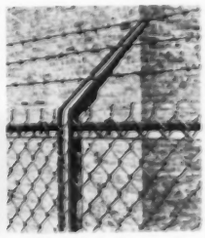

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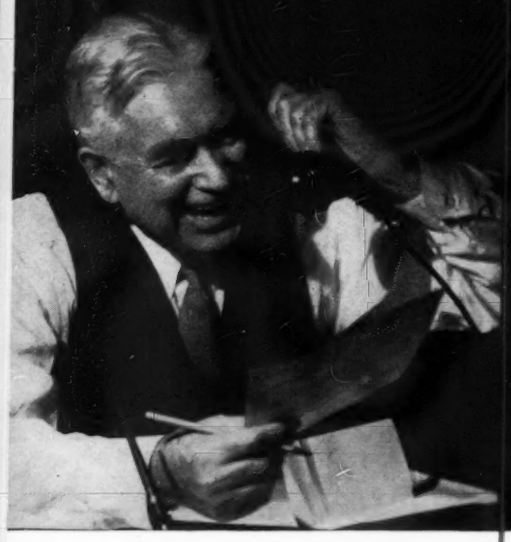
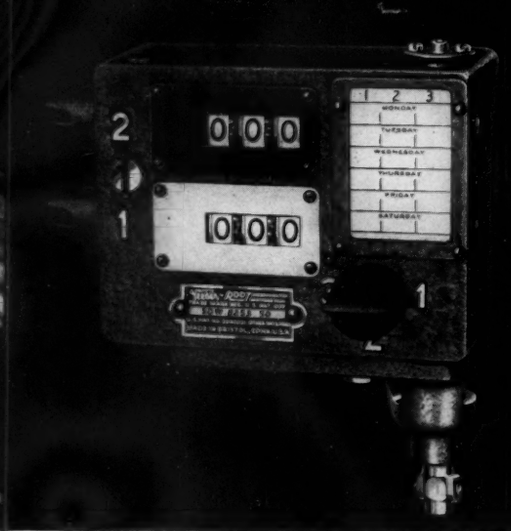
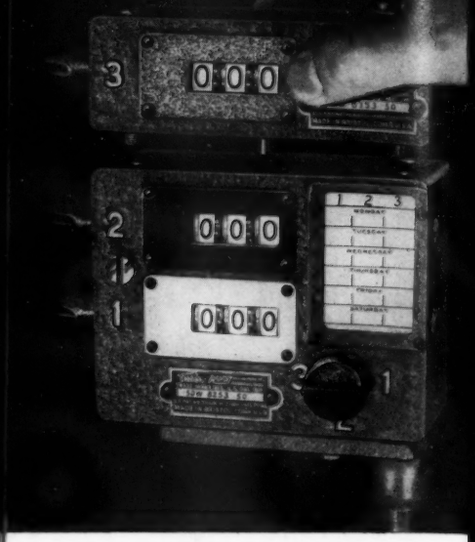


1 When you need Pick Counters, call the Veeder-Root Representative at the nearest office. He's an experienced specialist in loom and counter operation . . . knows how to save you money and get you the best results . . .



2 If you're on 2 shifts, he'll install only what you need . . . Veeder-Root 2-Shift Pick Counters . . . accurate, vibration-free, complete with all accessories. And he'll keep an eye on the installation to make sure it works as it should.



3 Then if you go to 3 shifts, all you have to buy is the *completely housed, dirt-and-damage-proof 3rd-shift counting unit* for each 2-shift counter. And your own men can quickly attach these units with 3 brass screws.

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